



Your **definitive** source  
for quality pre-owned  
equipment.

**Artisan Technology Group**

(217) 352-9330 | [sales@artisanng.com](mailto:sales@artisanng.com) | [artisanng.com](http://artisanng.com)

**Full-service, independent repair center**

with experienced engineers and technicians on staff.

**We buy your excess, underutilized, and idle equipment**

along with credit for buybacks and trade-ins.

**Custom engineering**

so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

**Expert team | Trust guarantee | 100% satisfaction**

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the Yaskawa SGMPH-04DAA6CD-OY at our website: ***Click HERE***

SGMAH-□, SGMPH-□, SGMGH-□, SGMSH-□, SGMUH-□, SGMBH-□

# Sigma-II rotary servo motors

**The ideal servo family for motion control. Fast response, high speed, and high accuracy.**

- 6 different designs provide a complete range of servo motors to meet the power, speed and performance required per each application.
- Peak torque 300% of nominal during 3 seconds
- Automatic motor recognition by servo drive
- IP67 and shaft oil seal available
- High resolution encoders
- Absolute multiturn encoder solution
- Compact design and robust construction

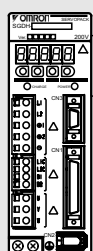
## Ratings

- 230 VAC from 30 W to 1.5 kW  
(rated torque from 0.09 to 4.77 Nm)
- 400 VAC from 300 W to 55 kW  
(rated torque from 0.95 Nm to 350 Nm)



## System configuration

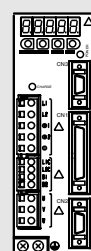
(Refer to servo drive chapter)



Servo drive with option boards for flexible system configuration

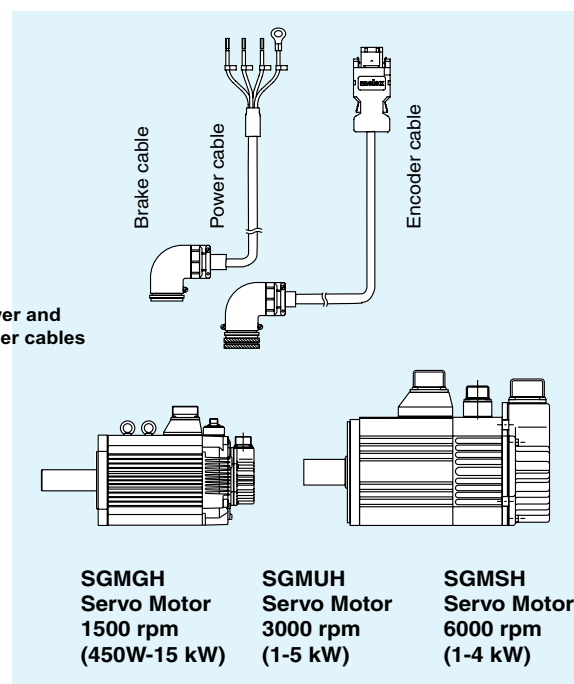
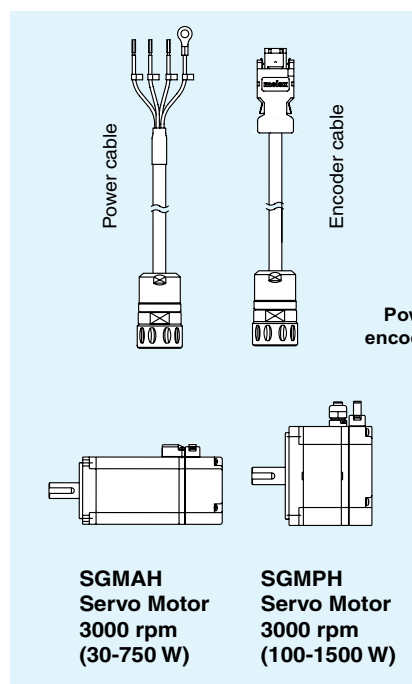
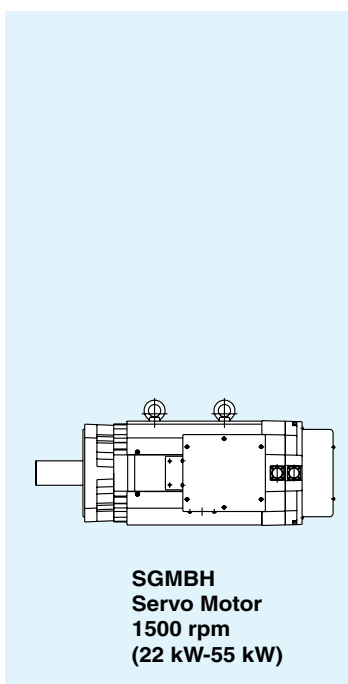
**Sigma-II Servo Drive**

Drive options



Intelligent Servo Drive

**XtraDrive**



## Servo motor / servo drive combination

|                                                                                                                           | Sigma-II rotary servo motor |              |          |            | Sigma-II servo drive |                 | XtraDrive servo drive |                 |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------|----------|------------|----------------------|-----------------|-----------------------|-----------------|
|                                                                                                                           | Voltage                     | Rated torque | Capacity | Model      | 230 V (1-phase)      | 400 V (3-phase) | 230 V (1-phase)       | 400 V (3-phase) |
| SGMAH<br>(3000 min <sup>-1</sup> )<br>   | 230 V                       | 0.0955 N.m   | 30 W     | SGMAH-A3A□ | SGDH-A3AE-OY         | -               | XD-P3-MN01            | -               |
|                                                                                                                           |                             | 0.159 N.m    | 50 W     | SGMAH-A5A□ | SGDH-A5AE-OY         | -               | XD-P5-MN01            | -               |
|                                                                                                                           |                             | 0.318 N.m    | 100 W    | SGMAH-01A□ | SGDH-01AE-OY         | -               | XD-01-MN01            | -               |
|                                                                                                                           |                             | 0.637 N.m    | 200 W    | SGMAH-02A□ | SGDH-02AE-OY         | -               | XD-02-MN01            | -               |
|                                                                                                                           |                             | 1.27 N.m     | 400 W    | SGMAH-04A□ | SGDH-04AE-OY         | -               | XD-04-MN01            | -               |
|                                                                                                                           |                             | 2.39 N.m     | 750 W    | SGMAH-08A□ | SGDH-08AE-S-OY       | -               | XD-08-MN              | -               |
|                                                                                                                           | 400 V                       | 0.955 N.m    | 300 W    | SGMAH-03D□ | -                    | SGDH-05DE-OY    | -                     | XD-05-TN        |
|                                                                                                                           |                             | 2.07 N.m     | 650 W    | SGMAH-07D□ | -                    | SGDH-10DE-OY    | -                     | XD-10-TN        |
| SGMPH<br>(3000 min <sup>-1</sup> )<br>   | 230 V                       | 0.318 N.m    | 100 W    | SGMPH-01A□ | SGDH-01AE-OY         | -               | XD-01-MN01            | -               |
|                                                                                                                           |                             | 0.637 N.m    | 200 W    | SGMPH-02A□ | SGDH-02AE-OY         | -               | XD-02-MN01            | -               |
|                                                                                                                           |                             | 1.27 N.m     | 400 W    | SGMPH-04A□ | SGDH-04AE-OY         | -               | XD-04-MN01            | -               |
|                                                                                                                           |                             | 2.39 N.m     | 750 W    | SGMPH-08A□ | SGDH-08AE-S-OY       | -               | XD-08-MN              | -               |
|                                                                                                                           |                             | 4.77 N.m     | 1500 W   | SGMPH-15A□ | SGDH-15AE-S-OY       | -               | XD-15-MN              | -               |
|                                                                                                                           | 400 V                       | 0.637 N.m    | 200 W    | SGMPH-02D□ | -                    | SGDH-05DE-OY    | -                     | XD-05-TN        |
|                                                                                                                           |                             | 1.27 N.m     | 400 W    | SGMPH-04D□ | -                    | SGDH-05DE-OY    | -                     | XD-05-TN        |
|                                                                                                                           |                             | 2.39 N.m     | 750 W    | SGMPH-08D□ | -                    | SGDH-10DE-OY    | -                     | XD-10-TN        |
| SGMGH<br>(1500 min <sup>-1</sup> )<br>  | 400 V                       | 4.77 N.m     | 1500 W   | SGMPH-15D□ | -                    | SGDH-15DE-OY    | -                     | XD-15-TN        |
|                                                                                                                           |                             | 2.84 N.m     | 0.45 kW  | SGMGH-05D□ | -                    | SGDH-05DE-OY    | -                     | XD-05-TN        |
|                                                                                                                           |                             | 5.39 N.m     | 0.85 kW  | SGMGH-09D□ | -                    | SGDH-10DE-OY    | -                     | XD-10-TN        |
|                                                                                                                           |                             | 8.34 N.m     | 1.3 kW   | SGMGH-13D□ | -                    | SGDH-15DE-OY    | -                     | XD-15-TN        |
|                                                                                                                           |                             | 11.5 N.m     | 1.8 kW   | SGMGH-20D□ | -                    | SGDH-20DE-OY    | -                     | XD-20-TN        |
|                                                                                                                           |                             | 18.6 N.m     | 2.9 kW   | SGMGH-30D□ | -                    | SGDH-30DE-OY    | -                     | XD-30-TN        |
|                                                                                                                           |                             | 28.4 N.m     | 4.4 kW   | SGMGH-44D□ | -                    | SGDH-50DE-OY    | -                     | XD-50-TN        |
|                                                                                                                           |                             | 35.0 N.m     | 5.5 kW   | SGMGH-55D□ | -                    | SGDH-60DE-OY    | -                     | -               |
| SGMSH<br>(3000 min <sup>-1</sup> )<br> | 400 V                       | 48.0 N.m     | 7.5 kW   | SGMGH-75D□ | -                    | SGDH-75DE-OY    | -                     | -               |
|                                                                                                                           |                             | 70.0 N.m     | 11 kW    | SGMGH-1AD□ | -                    | SGDH-1ADE-OY    | -                     | -               |
|                                                                                                                           |                             | 95.4 N.m     | 15 kW    | SGMGH-1ED□ | -                    | SGDH-1EDE-OY    | -                     | -               |
|                                                                                                                           |                             | 3.18 N.m     | 1.0 kW   | SGMSH-10D□ | -                    | SGDH-10DE-OY    | -                     | XD-10-TN        |
|                                                                                                                           |                             | 4.90 N.m     | 1.5 kW   | SGMSH-15D□ | -                    | SGDH-15DE-OY    | -                     | XD-15-TN        |
|                                                                                                                           |                             | 6.36 N.m     | 2.0 kW   | SGMSH-20D□ | -                    | SGDH-20DE-OY    | -                     | XD-20-TN        |
|                                                                                                                           |                             | 9.80 N.m     | 3.0 kW   | SGMSH-30D□ | -                    | SGDH-30DE-OY    | -                     | XD-30-TN        |
|                                                                                                                           |                             | 12.6 N.m     | 4.0 kW   | SGMSH-40D□ | -                    | SGDH-50DE-OY    | -                     | XD-50-TN        |
| SGMUH (6000 min <sup>-1</sup> )<br>    | 400 V                       | 15.8 N.m     | 5.0 kW   | SGMSH-50D□ | -                    | SGDH-50DE-OY    | -                     | XD-50-TN        |
|                                                                                                                           |                             | 1.59 N.m     | 1.0 kW   | SGMUH-10D□ | -                    | SGDH-10DE-OY    | -                     | XD-10-TN        |
|                                                                                                                           |                             | 2.45 N.m     | 1.5 kW   | SGMUH-15D□ | -                    | SGDH-15DE-OY    | -                     | XD-15-TN        |
|                                                                                                                           |                             | 4.9 N.m      | 3.0 kW   | SGMUH-30D□ | -                    | SGDH-30DE-OY    | -                     | XD-30-TN        |
| SGMUH (6000 min <sup>-1</sup> )<br>    | 400 V                       | 6.3 N.m      | 4.0 kW   | SGMUH-40D□ | -                    | SGDH-50DE-OY    | -                     | XD-50-TN        |
|                                                                                                                           |                             | 140 Nm       | 22 kW    | SGMBH-2BD□ | -                    | SGDH-2BDE       | -                     | -               |
|                                                                                                                           |                             | 191 Nm       | 30 kW    | SGMBH-3ZD□ | -                    | SGDH-3ZDE       | -                     | -               |
|                                                                                                                           |                             | 236 Nm       | 37 kW    | SGMBH-3GD□ | -                    | SGDH-3GDE       | -                     | -               |
|                                                                                                                           |                             | 286 Nm       | 45 kW    | SGMBH-4ED□ | -                    | SGDH-4EDE       | -                     | -               |
| SGMUH (6000 min <sup>-1</sup> )<br>    | 400 V                       | 350 Nm       | 55 kW    | SGMBH-5ED□ | -                    | SGDH-5EDE       | -                     | -               |

**Note:** 1. For servo motor and cables part numbers refer to ordering information at the end of this chapter  
 2. Refer to the servo drive chapter for drive options selection and detailed specifications

## Type designation

## Servo motor

SGMAH - 01 A 1 A 6 S D - OY

Sigma-II servo motor type

SGMAH: Super high power rate type

SGMPH: Cube type

SGMGH: High-speed feed type

SGMSH: Super high power rate type

SGMUH: High speed type

Capacity (kW)

| Code | SGMAH<br>3000<br>min <sup>-1</sup> | SGMPH<br>3000<br>min <sup>-1</sup> | SGMGH<br>1500<br>min <sup>-1</sup> | SGMSH<br>3000<br>min <sup>-1</sup> | SGMUH<br>6000<br>min <sup>-1</sup> |
|------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| A3   | 0.03                               |                                    |                                    |                                    |                                    |
| A5   | 0.05                               |                                    |                                    |                                    |                                    |
| 01   | 0.1                                | 0.1                                |                                    |                                    |                                    |
| 02   | 0.2                                | 0.2                                |                                    |                                    |                                    |
| 03   | 0.3                                |                                    |                                    |                                    |                                    |
| 04   | 0.4                                | 0.4                                |                                    |                                    |                                    |
| 05   |                                    |                                    | 0.45                               |                                    |                                    |
| 06   |                                    |                                    |                                    |                                    |                                    |
| 07   | 0.65                               |                                    |                                    |                                    |                                    |
| 08   | 0.75                               | 0.75                               |                                    |                                    |                                    |
| 09   |                                    |                                    | 0.85                               |                                    |                                    |
| 10   |                                    |                                    |                                    | 1.0                                | 1.0                                |
| 12   |                                    |                                    |                                    |                                    |                                    |
| 13   |                                    |                                    | 1.3                                |                                    |                                    |
| 15   |                                    | 1.5                                |                                    | 1.5                                | 1.5                                |
| 20   |                                    |                                    | 1.8                                | 2.0                                |                                    |
| 22   |                                    |                                    |                                    |                                    |                                    |
| 30   |                                    |                                    | 2.9                                | 3.0                                | 3.0                                |
| 32   |                                    |                                    |                                    |                                    |                                    |
| 40   |                                    |                                    |                                    | 4.0                                | 4.0                                |
| 44   |                                    |                                    | 4.4                                |                                    |                                    |
| 50   |                                    |                                    |                                    | 5.0                                |                                    |
| 55   |                                    |                                    | 5.5                                |                                    |                                    |
| 60   |                                    |                                    |                                    |                                    |                                    |
| 75   |                                    |                                    | 7.5                                |                                    |                                    |
| 1A   |                                    |                                    | 11                                 |                                    |                                    |
| 1E   |                                    |                                    | 15                                 |                                    |                                    |

Voltage

A: 230 V

D: 400 V

Connector specifications

|       |                                   |
|-------|-----------------------------------|
| Blank | No option                         |
| D     | Hypertac connector (SGMAH, SGMPH) |

Brake, oil seal specifications

|   |                            |
|---|----------------------------|
| 1 | No brake, no oil/dust seal |
| S | Oil seal                   |
| B | 90 V brake                 |
| C | 24 V brake                 |
| D | Oil seal + 90 VDC brake    |
| E | Oil seal + 24 VDC brake    |
| F | Dust seal                  |
| G | Dust seal + 90 VDC brake   |
| H | Dust seal + 24 VDC brake   |

Shaft end specifications

| Code | Shaft end             | Type  |       |       |       |       |
|------|-----------------------|-------|-------|-------|-------|-------|
|      |                       | SGMAH | SGMPH | SGMGH | SGMSH | SGMUH |
| 2    | Straight, no key      | ○     | ○     | ○     | ○     |       |
| 4    | Straight, key         | ○     | ○     |       |       |       |
| 6    | Straight, key, tapped | ●     | ●     | ●     | ●     | ●     |
| 8    | Straight, tapped      | ○     | ○     |       |       |       |

●: Standard ○: Option

Design procedure:

A: Standard

E: SGMPH (IP67)

F: SGMAH (prepared for oil seal mounting)

Serial encoder specifications

| Code | Encoder            | Type  |       |       |       |       |
|------|--------------------|-------|-------|-------|-------|-------|
|      |                    | SGMAH | SGMPH | SGMGH | SGMSH | SGMUH |
| 1    | 16-bit absolute    | ○     | ○     |       |       |       |
| 2    | 17-bit absolute    |       |       | ○     | ○     |       |
| A    | 13-bit incremental | ●     | ●     |       |       |       |
| B    | 16-bit incremental | ○     | ○     |       |       |       |
| C    | 17-bit incremental |       |       | ○     | ○     | ○     |

●: Standard ○: Option

SGMBH - 2 B D 2 A □ □

Sigma-II series large

Type : SGMBH

Motor output

2B: 22 kW 4E: 45 kW

3Z: 30 kW 5E: 55 kW

3G: 37 kW

Voltage

D: 400 V

Encoder specifications

2: 17-bit absolute (standard)

C: 17-bit incremental (standard)

3: 20-bit absolute (option)

Design revision

A: Max. torque 200%

Option

1: Oil seal (V type)

B: Oil seal (V type) and holding brake (90 VDC)

C: Oil seal (V type) and holding brake (24 VDC)

S: Oil seal (S type)

D: Oil seal (S type) and holding brake (90 VDC)

E: Oil seal (S type) and holding brake (24 VDC)

Note : Options are not available for 55 kW motors.

Motor specifications

2: Flange, straight shaft

6: Flange, straight shaft } For 45 kW or less  
(with key and tap)

K: Foot mount, straight shaft

L: Foot mount, straight shaft } For 37 kW or more  
(with key and tap)

## Servo motor specifications

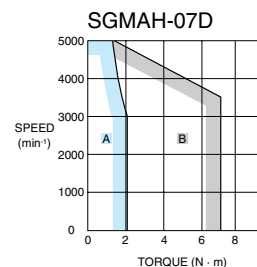
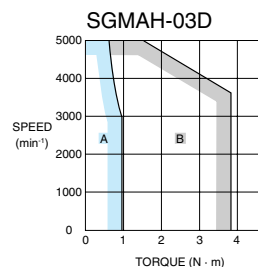
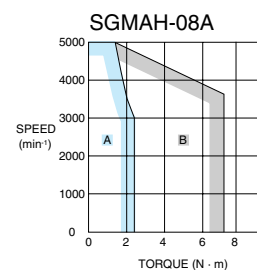
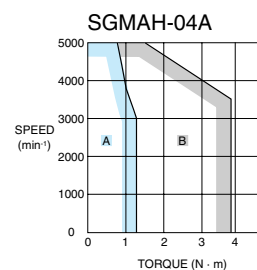
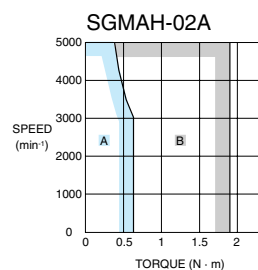
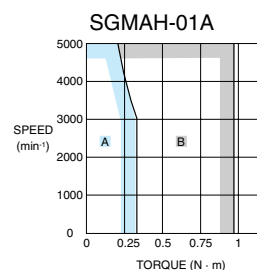
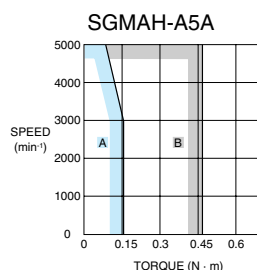
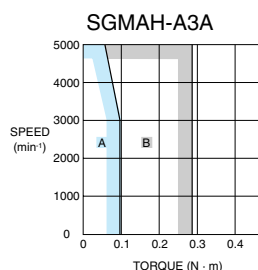
### Type SGMAH, 230 V/400 V

#### Ratings and specifications

| Applied voltage                       |                                     | 230 V                                                         |       |       |       |       |       | 400 V |       |
|---------------------------------------|-------------------------------------|---------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Servo motor model SGMAH- □            |                                     | A3A□                                                          | A5A□  | 01A□  | 02A□  | 04A□  | 08A□  | 03D□  | 07D□  |
| Rated output                          | W                                   | 30                                                            | 50    | 100   | 200   | 400   | 750   | 300   | 650   |
| Rated torque                          | N·m                                 | 0.096                                                         | 0.159 | 0.318 | 0.637 | 1.27  | 2.39  | 0.955 | 2.07  |
| Instantaneous peak torque             | N·m                                 | 0.286                                                         | 0.477 | 0.955 | 1.91  | 3.82  | 7.16  | 3.82  | 7.16  |
| Rated current                         | A (rms)                             | 0.44                                                          | 0.64  | 0.91  | 2.1   | 2.8   | 4.4   | 1.3   | 2.2   |
| Instantaneous max. current            | A (rms)                             | 1.3                                                           | 2.0   | 2.8   | 6.5   | 8.5   | 13.4  | 5.1   | 7.7   |
| Rated speed                           | min <sup>-1</sup>                   | 3000                                                          |       |       |       |       |       |       |       |
| Max. speed                            | min <sup>-1</sup>                   | 5000                                                          |       |       |       |       |       |       |       |
| Torque constant                       | N·m/A (rms)                         | 0.238                                                         | 0.268 | 0.378 | 0.327 | 0.498 | 0.590 | 0.837 | 1.02  |
| Rotor moment of inertia (JM)          | kg·m <sup>2</sup> ×10 <sup>-4</sup> | 0.017                                                         | 0.022 | 0.036 | 0.106 | 0.173 | 0.672 | 0.173 | 0.672 |
| Allowable load moment of inertia (JL) | Multiple of (JM)                    | 30                                                            |       |       |       | 20    |       |       |       |
| Rated power rate                      | kW/s                                | 5.49                                                          | 11.5  | 27.8  | 38.2  | 93.7  | 84.8  | 52.9  | 63.8  |
| Rated angular acceleration            | rad/s <sup>2</sup>                  | 57500                                                         | 72300 | 87400 | 60100 | 73600 | 35500 | 55300 | 30800 |
| Applicable encoder                    | Standard                            | Incremental encoder (13 bits)                                 |       |       |       |       |       |       |       |
|                                       | Option                              | Incremental/absolute encoder (16 bits)                        |       |       |       |       |       |       |       |
| Holding brake moment of inertia J     | kg·m <sup>2</sup> ×10 <sup>-4</sup> | 0.0085                                                        |       |       | 0.058 |       | 0.14  | 0.058 | 0.14  |
| Basic specifications                  | Time rating                         | Continuous                                                    |       |       |       |       |       |       |       |
|                                       | Insulation class                    | Class B                                                       |       |       |       |       |       |       |       |
|                                       | Ambient temperature                 | 0 to +40 °C                                                   |       |       |       |       |       |       |       |
|                                       | Ambient humidity                    | 20 to 80% (non-condensing)                                    |       |       |       |       |       |       |       |
|                                       | Vibration class                     | 15 μm or below                                                |       |       |       |       |       |       |       |
|                                       | Enclosure                           | Totally-enclosed, self-cooled, IP55 (excluding shaft opening) |       |       |       |       |       |       |       |
|                                       | Vibration resistance                | Vibration acceleration 49 m/s2                                |       |       |       |       |       |       |       |
|                                       | Mounting                            | Flange-mounted                                                |       |       |       |       |       |       |       |

#### Torque-speed characteristics

(A : Continuous duty zone B : Intermittent duty zone)



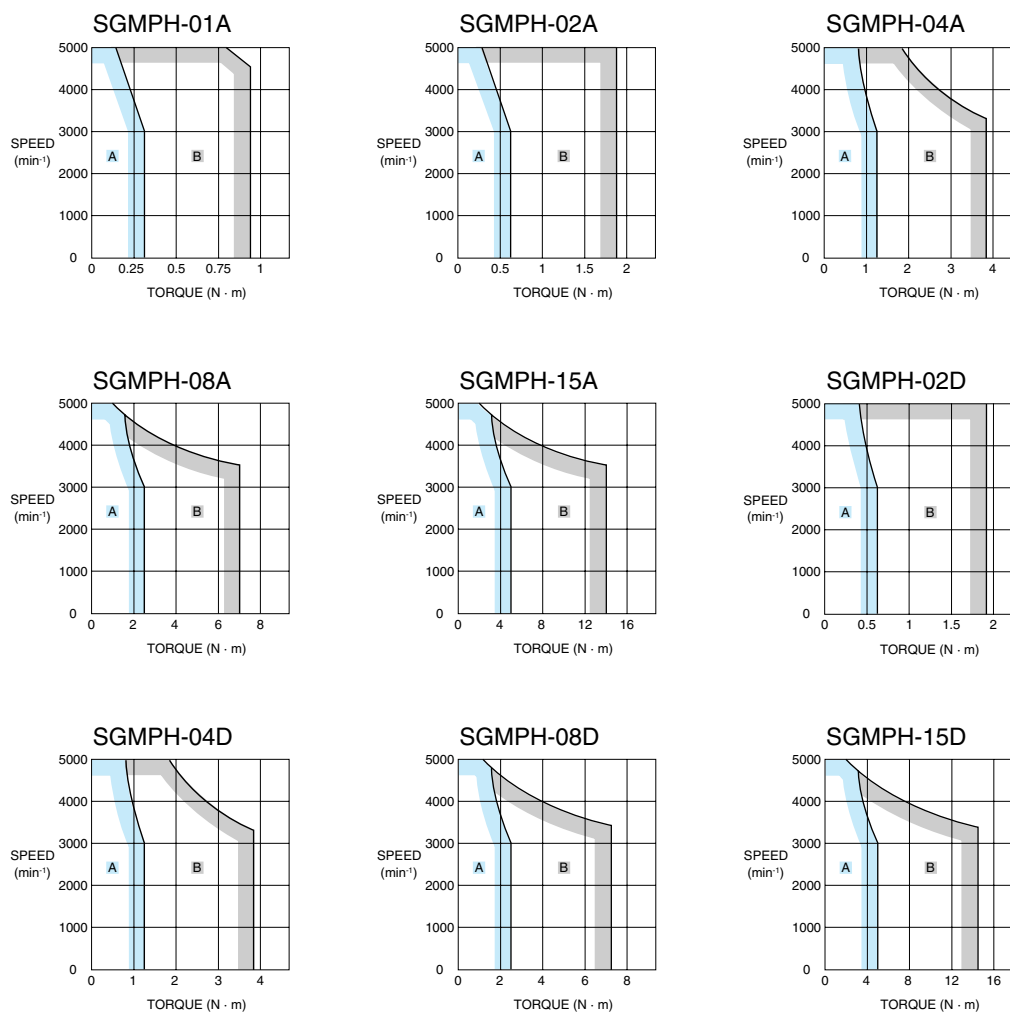
## Type SGMPH, 230 V/400 V

## Ratings and specifications

| Applied voltage                       |                                     | 230 V                                                         |       |       |       |       | 400 V |       |       |       |
|---------------------------------------|-------------------------------------|---------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Servo motor model SGMPH-□             |                                     | 01A□                                                          | 02A□  | 04A□  | 08A□  | 15A□  | 02D□  | 04D□  | 08D□  | 15D□  |
| Rated output                          | W                                   | 100                                                           | 200   | 400   | 750   | 1500  | 200   | 400   | 750   | 1500  |
| Rated torque                          | N·m                                 | 0.318                                                         | 0.637 | 1.27  | 2.39  | 4.77  | 0.637 | 1.27  | 2.39  | 4.77  |
| Instantaneous peak torque             | N·m                                 | 0.955                                                         | 1.91  | 3.82  | 7.16  | 14.3  | 1.91  | 3.82  | 7.16  | 14.3  |
| Rated current                         | A (rms)                             | 0.89                                                          | 2.0   | 2.6   | 4.1   | 7.5   | 1.4   | 1.4   | 2.6   | 4.5   |
| Instantaneous max. current            | A (rms)                             | 2.8                                                           | 6.0   | 8.0   | 13.9  | 23.0  | 4.6   | 4.4   | 7.8   | 13.7  |
| Rated speed                           | min <sup>-1</sup>                   | 3000                                                          |       |       |       |       |       |       |       |       |
| Max. speed                            | min <sup>-1</sup>                   | 5000                                                          |       |       |       |       |       |       |       |       |
| Torque constant                       | N·m/A (rms)                         | 0.392                                                         | 0.349 | 0.535 | 0.641 | 0.687 | 0.481 | 0.963 | 0.994 | 1.14  |
| Rotor moment of inertia (JM)          | kg·m <sup>2</sup> ×10 <sup>-4</sup> | 0.0491                                                        | 0.193 | 0.331 | 2.10  | 4.02  | 0.193 | 0.331 | 2.10  | 4.02  |
| Allowable load moment of inertia (JL) | Multiple of (JM)                    | 25                                                            | 15    | 7     | 5     |       | 15    | 7     | 5     |       |
| Rated power rate                      | kW/s                                | 20.6                                                          | 21.0  | 49.0  | 27.1  | 56.7  | 21.0  | 49.0  | 27.1  | 56.7  |
| Rated angular acceleration            | rad/s <sup>2</sup>                  | 64800                                                         | 33000 | 38500 | 11400 | 11900 | 33000 | 38500 | 11400 | 11900 |
| Applicable encoder                    | Standard                            | Incremental encoder (13 bits)                                 |       |       |       |       |       |       |       |       |
|                                       | Option                              | Incremental/absolute encoder (16 bits)                        |       |       |       |       |       |       |       |       |
| Holding brake moment of inertia J     | kg·m <sup>2</sup> ×10 <sup>-4</sup> | 0.029                                                         | 0.109 |       | 0.875 |       | 0.109 |       | 0.875 |       |
| Basic specifications                  | Time rating                         | Continuous                                                    |       |       |       |       |       |       |       |       |
|                                       | Insulation class                    | Class B                                                       |       |       |       |       |       |       |       |       |
|                                       | Ambient temperature                 | 0 to +40 °C                                                   |       |       |       |       |       |       |       |       |
|                                       | Ambient humidity                    | 20 to 80% (non-condensing)                                    |       |       |       |       |       |       |       |       |
|                                       | Vibration class                     | 15 µm or below                                                |       |       |       |       |       |       |       |       |
|                                       | Enclosure                           | Totally-enclosed, self-cooled, IP55 (excluding shaft opening) |       |       |       |       |       |       |       |       |
|                                       | Vibration resistance                | Vibration acceleration 49 m/s <sup>2</sup>                    |       |       |       |       |       |       |       |       |
|                                       | Mounting                            | Flange-mounted                                                |       |       |       |       |       |       |       |       |

## Torque-speed characteristics

( A : Continuous duty zone B : Intermittent duty zone)



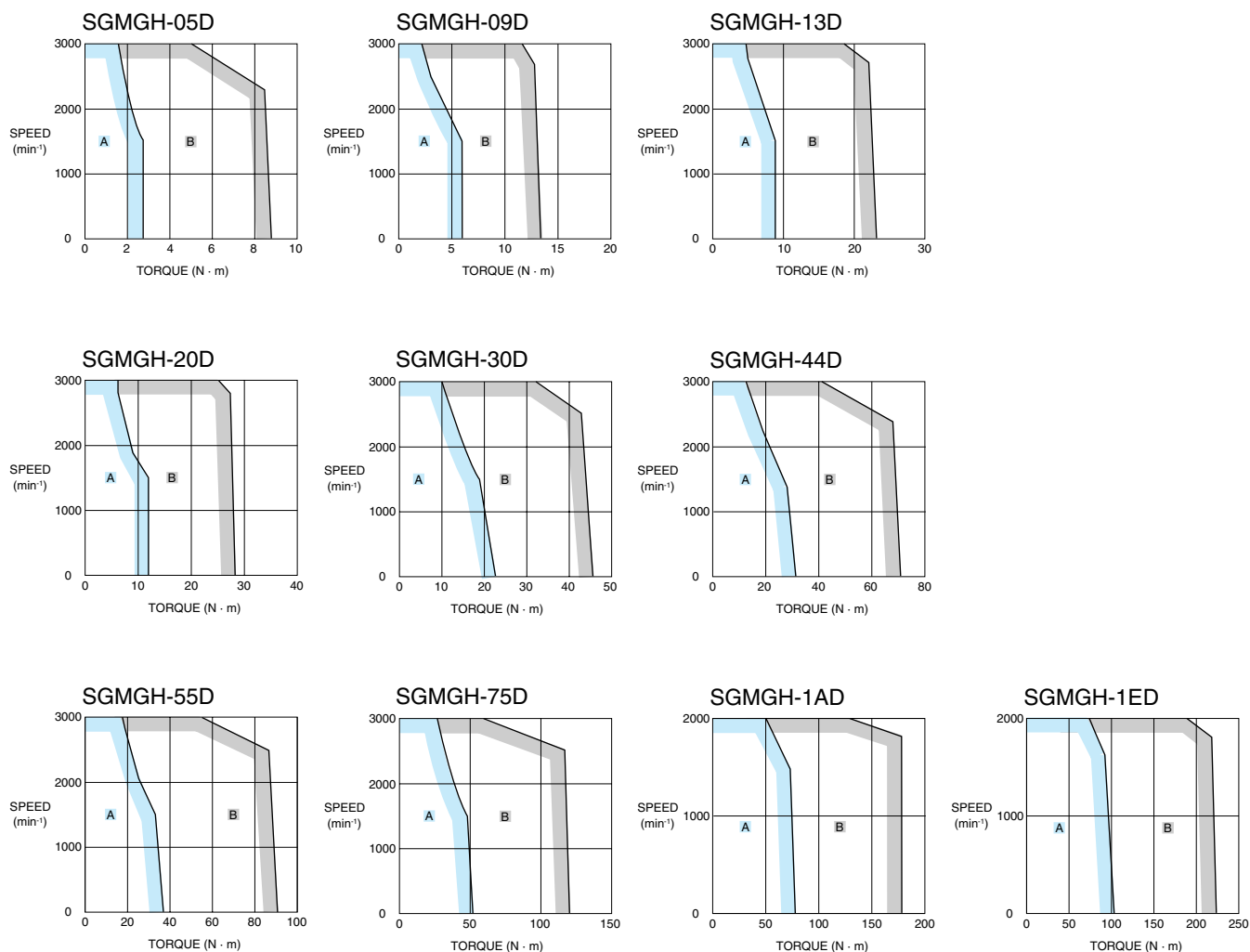
## Type SGMGH, 400 V

### Ratings and specifications

| Applied voltage                       |                                     | 400 V                                                         |      |      |      |      |      |      |      |      |      |
|---------------------------------------|-------------------------------------|---------------------------------------------------------------|------|------|------|------|------|------|------|------|------|
| Servo motor model SGMGH- □            |                                     | 05D□                                                          | 09D□ | 13D□ | 20D□ | 30D□ | 44D□ | 55D□ | 75D□ | 1AD□ | 1ED□ |
| Rated output                          | kW                                  | 0.45                                                          | 0.85 | 1.3  | 1.8  | 2.9  | 4.4  | 5.5  | 7.5  | 11   | 15   |
| Rated torque                          | N·m                                 | 2.84                                                          | 5.39 | 8.34 | 11.5 | 18.6 | 28.4 | 35.0 | 48.0 | 70.0 | 95.4 |
| Instantaneous peak torque             | N·m                                 | 8.92                                                          | 13.8 | 23.3 | 28.7 | 45.1 | 71.1 | 90.7 | 123  | 175  | 221  |
| Rated current                         | A (rms)                             | 1.9                                                           | 3.5  | 5.4  | 8.4  | 11.9 | 16.5 | 20.8 | 25.4 | 28.1 | 37.2 |
| Instantaneous max. current            | A (rms)                             | 5.5                                                           | 8.5  | 14   | 20   | 28   | 40.5 | 55   | 65   | 70   | 85   |
| Rated speed                           | min <sup>-1</sup>                   | 1500                                                          |      |      |      |      |      |      |      |      |      |
| Max. speed                            | min <sup>-1</sup>                   | 3000                                                          |      |      |      |      |      |      |      | 2000 |      |
| Torque constant                       | N·m/A (rms)                         | 1.64                                                          | 1.65 | 1.68 | 1.46 | 1.66 | 1.82 | 1.74 | 2.0  | 2.56 | 2.64 |
| Rotor moment of inertia (JM)          | kg·m <sup>2</sup> ×10 <sup>-4</sup> | 7.24                                                          | 13.9 | 20.5 | 31.7 | 46.0 | 67.5 | 89.0 | 125  | 281  | 315  |
| Allowable load moment of inertia (JL) | Multiple of (JM)                    | 5                                                             |      |      |      |      |      |      |      |      |      |
| Rated power rate                      | kW/s                                | 11.2                                                          | 20.9 | 33.8 | 41.5 | 75.3 | 120  | 137  | 184  | 174  | 289  |
| Rated angular acceleration            | rad/s <sup>2</sup>                  | 3930                                                          | 3880 | 4060 | 3620 | 4050 | 4210 | 3930 | 3850 | 2490 | 3030 |
| Applicable encoder                    | Standard                            | Incremental encoder (17 bits)                                 |      |      |      |      |      |      |      |      |      |
|                                       | Option                              | Absolute encoder (17 bits)                                    |      |      |      |      |      |      |      |      |      |
| Holding brake moment of inertia J     | kg·m <sup>2</sup> ×10 <sup>-4</sup> | 2.10                                                          |      |      |      | 8.50 |      |      |      | 18.8 | 37.5 |
| Basic specifications                  | Time rating                         | Continuous                                                    |      |      |      |      |      |      |      |      |      |
|                                       | Insulation class                    | Class F                                                       |      |      |      |      |      |      |      |      |      |
|                                       | Ambient temperature                 | 0 to +40 °C                                                   |      |      |      |      |      |      |      |      |      |
|                                       | Ambient humidity                    | 20 to 80% (non-condensing)                                    |      |      |      |      |      |      |      |      |      |
|                                       | Vibration class                     | 15 μm or below                                                |      |      |      |      |      |      |      |      |      |
|                                       | Enclosure                           | Totally-enclosed, self-cooled, IP67 (excluding shaft opening) |      |      |      |      |      |      |      |      |      |
|                                       | Vibration resistance                | Vibration acceleration 24.5 m/s2                              |      |      |      |      |      |      |      |      |      |
|                                       | Mounting                            | Flange-mounted                                                |      |      |      |      |      |      |      |      |      |

### Torque-speed characteristics

( **A** : Continuous duty zone   **B** : Intermittent duty zone )



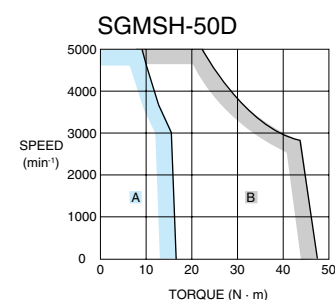
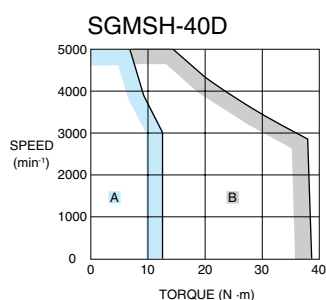
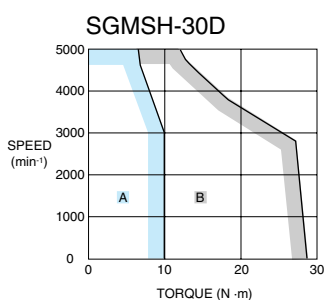
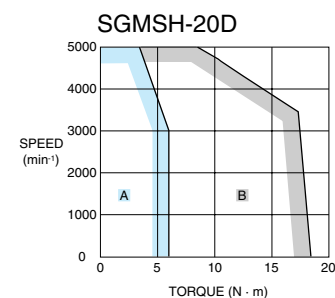
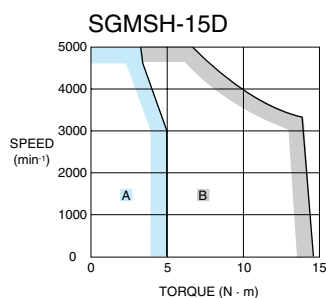
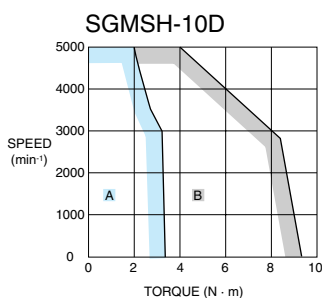
## Type SGMSH, 400 V

## Ratings and specifications

| Applied voltage                       |                                     | 400 V                                                         |       |       |       |       |       |
|---------------------------------------|-------------------------------------|---------------------------------------------------------------|-------|-------|-------|-------|-------|
| Servo motor model SGMSH- □            |                                     | 10D□                                                          | 15D□  | 20D□  | 30D□  | 40D□  | 50D□  |
| Rated output                          | kW                                  | 1.0                                                           | 1.5   | 2.0   | 3.0   | 4.0   | 5.0   |
| Rated torque                          | N·m                                 | 3.18                                                          | 4.9   | 6.36  | 9.8   | 12.6  | 15.8  |
| Instantaneous peak torque             | N·m                                 | 9.54                                                          | 14.7  | 19.1  | 29.4  | 37.8  | 47.6  |
| Rated current                         | A (rms)                             | 2.8                                                           | 4.7   | 6.2   | 8.9   | 12.5  | 13.8  |
| Instantaneous max. current            | A (rms)                             | 8.5                                                           | 14    | 19.5  | 28    | 38    | 42    |
| Rated speed                           | min <sup>-1</sup>                   | 3000                                                          |       |       |       |       |       |
| Max. speed                            | min <sup>-1</sup>                   | 5000                                                          |       |       |       |       |       |
| Torque constant                       | N·m/A (rms)                         | 1.27                                                          | 1.15  | 1.12  | 1.19  | 1.07  | 1.24  |
| Rotor moment of inertia (JM)          | kg·m <sup>2</sup> ×10 <sup>-4</sup> | 1.74                                                          | 2.47  | 3.19  | 7.0   | 9.60  | 12.3  |
| Allowable load moment of inertia (JL) | Multiple of (JM)                    | 5                                                             |       |       |       |       |       |
| Rated power rate                      | kW/s                                | 57.9                                                          | 97.2  | 127   | 137   | 166   | 202   |
| Rated angular acceleration            | rad/s <sup>2</sup>                  | 18250                                                         | 19840 | 19970 | 14000 | 13160 | 12780 |
| Applicable encoder                    | Standard                            | Incremental encoder (17 bits)                                 |       |       |       |       |       |
|                                       | Option                              | Absolute encoder (17 bits)                                    |       |       |       |       |       |
| Holding brake moment of inertia J     | kg·m <sup>2</sup> ×10 <sup>-4</sup> | 0.325                                                         |       |       | 2.10  |       |       |
| Basic specifications                  | Time rating                         | Continuous                                                    |       |       |       |       |       |
|                                       | Insulation class                    | Class F                                                       |       |       |       |       |       |
|                                       | Ambient temperature                 | 0 to +40 °C                                                   |       |       |       |       |       |
|                                       | Ambient humidity                    | 20 to 80% (non-condensing)                                    |       |       |       |       |       |
|                                       | Vibration class                     | 15 μm or below                                                |       |       |       |       |       |
|                                       | Enclosure                           | Totally-enclosed, self-cooled, IP67 (excluding shaft opening) |       |       |       |       |       |
|                                       | Vibration resistance                | Vibration acceleration 24.5 m/s2                              |       |       |       |       |       |
|                                       | Mounting                            | Flange-mounted                                                |       |       |       |       |       |

## Torque-speed characteristics

(A : Continuous duty zone B : Intermittent duty zone)



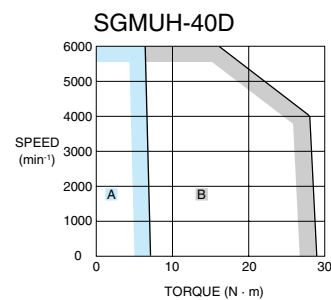
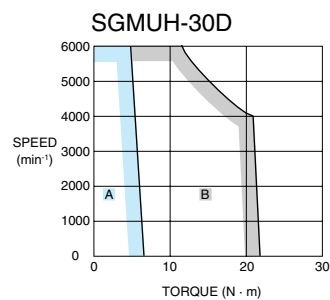
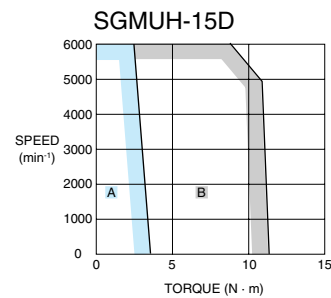
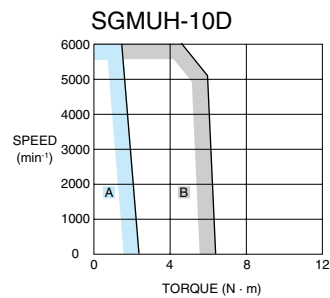
## Type SGMUH, 400V

### Ratings and specifications

| Applied voltage                       |                                     | 400 V                         |                                                               |      |      |
|---------------------------------------|-------------------------------------|-------------------------------|---------------------------------------------------------------|------|------|
| Servo motor model SGMUH- □            |                                     | 10D□                          | 15D□                                                          | 30D□ | 40D□ |
| Rated output                          | kW                                  | 1.0                           | 1.5                                                           | 3.0  | 4.0  |
| Rated torque                          | N·m                                 | 1.59                          | 2.45                                                          | 4.9  | 6.3  |
| Instantaneous peak torque             | N·m                                 | 6.5                           | 11                                                            | 21.5 | 29   |
| Rated current                         | A (rms)                             | 2.7                           | 4.1                                                           | 8.1  | 9.6  |
| Instantaneous max. current            | A (rms)                             | 8.5                           | 14                                                            | 28   | 38.5 |
| Rated speed                           | min <sup>-1</sup>                   | 6000                          |                                                               |      |      |
| Max. speed                            | min <sup>-1</sup>                   | 6000                          |                                                               |      |      |
| Torque constant                       | N·m/A (rms)                         | 0.81                          | 0.83                                                          | 0.81 | 0.80 |
| Rotor moment of inertia (JM)          | kg·m <sup>2</sup> ×10 <sup>-4</sup> | 1.74                          | 2.47                                                          | 7.0  | 9.6  |
| Allowable load moment of inertia (JL) | Multiple of (JM)                    | 5                             |                                                               |      |      |
| Rated power rate                      | kW/s                                | 14.5                          | 24.3                                                          | 34.3 | 41.3 |
| Rated angular acceleration            | rad/s <sup>2</sup>                  | 9130                          | 9910                                                          | 7000 | 6550 |
| Applicable encoder                    | Standard                            | Incremental encoder (17 bits) |                                                               |      |      |
|                                       | Option                              | -                             |                                                               |      |      |
| Holding brake moment of inertia J     | kg·m <sup>2</sup> ×10 <sup>-4</sup> | 0.25                          |                                                               | 2.10 |      |
| Basic specifications                  | Time rating                         |                               | Continuous                                                    |      |      |
|                                       | Insulation class                    |                               | Class F                                                       |      |      |
|                                       | Ambient temperature                 |                               | 0 to +40 °C                                                   |      |      |
|                                       | Ambient humidity                    |                               | 20 to 80% (non-condensing)                                    |      |      |
|                                       | Vibration class                     |                               | 15 μm or below                                                |      |      |
|                                       | Enclosure                           |                               | Totally-enclosed, self-cooled, IP67 (excluding shaft opening) |      |      |
|                                       | Vibration resistance                |                               | Vibration acceleration 24.5 m/s2                              |      |      |
|                                       | Mounting                            |                               | Flange-mounted                                                |      |      |

### Torque-speed characteristics

( A : Continuous duty zone B : Intermittent duty zone)



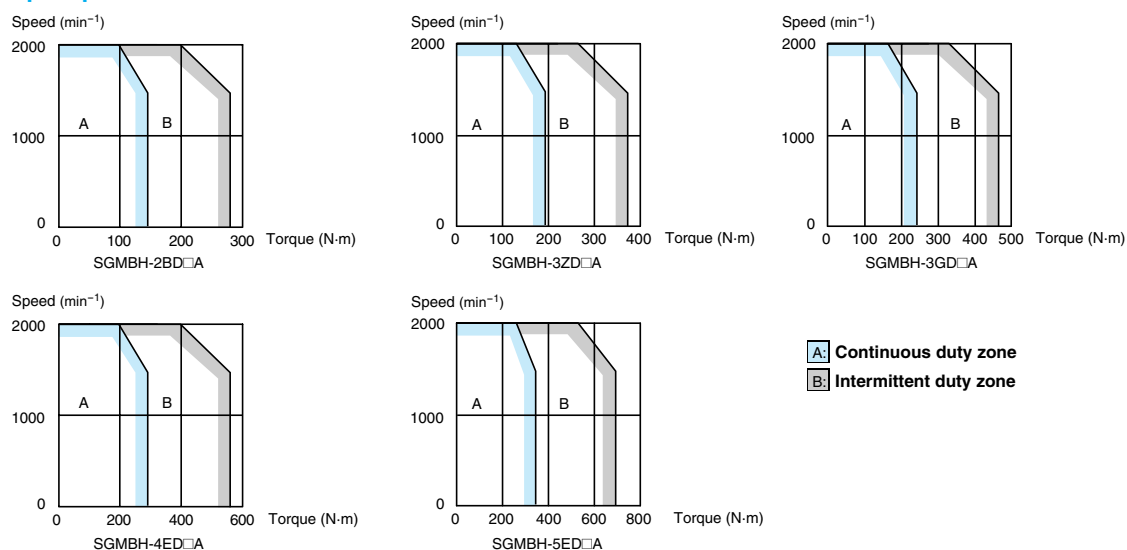
## Type SGM-BH, 400 V

## Ratings and specifications

| Type              | SGMBH-□                     |                   | 2BD□A                          | 3ZD□A | 3GD□A                          | 4ED□A | 5ED□A      |
|-------------------|-----------------------------|-------------------|--------------------------------|-------|--------------------------------|-------|------------|
| Performance       | Rated output                | kW                | 22                             | 30    | 37                             | 45    | 55         |
|                   | Rated torque                | N·m               | 140                            | 191   | 236                            | 286   | 350        |
|                   | Stalling torque             | N·m               | 140                            | 191   | 236                            | 286   | 350        |
|                   | Instantaneous peak torque   | N·m               | 280                            | 382   | 471                            | 572   | 700        |
|                   | Rated current               | A(rms)            | 58                             | 80    | 100                            | 127   | 150        |
|                   | Innstantaneous max. current | A(rms)            | 120                            | 170   | 210                            | 260   | 310        |
|                   | Rated/max. speed            | min <sup>-1</sup> | 1500/2000                      |       |                                |       |            |
| Rotor inertia     | kg·m <sup>2</sup>           | 0.0592            | 0.0773                         | 0.139 | 0.151                          | 0.197 |            |
| Structure         | Protective enclosure        |                   | IP44                           |       |                                |       |            |
|                   | Mounting method             |                   | Flange                         |       | Flange foot mount <sup>1</sup> |       | Foot mount |
| Encoder           |                             | Standard          | Incremental, absolute: 17 bits |       |                                |       |            |
|                   |                             | Option            | Absolute: 20 bits              |       |                                |       |            |
| Usage temperature |                             |                   | 0 to 40 °C                     |       |                                |       |            |
| Usage humidity    |                             |                   | 20 to 80% (non-condensing)     |       |                                |       |            |

**Note: 1.** 37 kW and 45 kW motors with brakes are foot mount type.

## Torque-speed characteristics

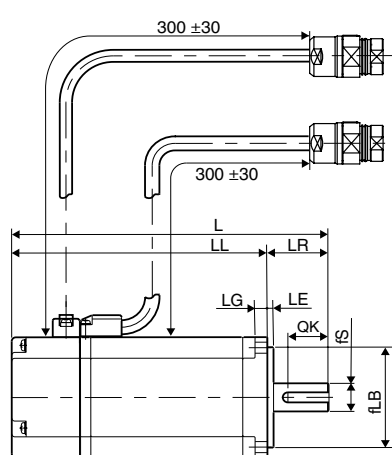


## Dimensions

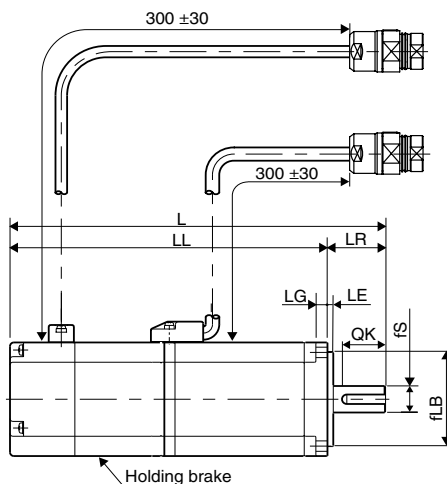
## Servo motors

## Type SGMAH (230/400 V)

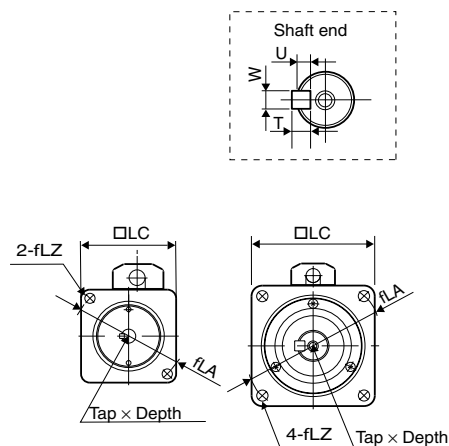
| Dimensions (mm)   | Without brake |       | With brake |       | LR | Flange surface |                  |    |     |    |     | Shaft end        |    |   |   |     |             | Aprox. Mass (Kg) |            |
|-------------------|---------------|-------|------------|-------|----|----------------|------------------|----|-----|----|-----|------------------|----|---|---|-----|-------------|------------------|------------|
| Model             | L             | LL    | L          | LL    |    | LA             | LB               | LC | LE  | LG | LZ  | S                | QK | W | T | U   | Tap × depth | Without brake    | With brake |
| SGMAH-A3A□A6□D-OY | 94.5          | 69.5  | 126        | 101   | 25 | 46             | 30 <sup>h7</sup> | 40 | 2.5 | 5  | 4.3 | 6 <sup>h6</sup>  | 14 | 2 | 2 | 1.2 | M2.5 x 5L   | 0.3              | 0.6        |
| SGMAH-A5A□A6□D-OY | 102.0         | 77    | 133.5      | 108.5 |    |                |                  |    |     |    |     |                  |    |   |   |     |             | 0.4              | 0.7        |
| SGMAH-01A□A6□D-OY | 119.5         | 94.5  | 160        | 135   |    |                |                  |    |     |    |     | 8 <sup>h6</sup>  |    | 3 | 3 | 1.8 | M3 x 6L     | 0.5              | 0.8        |
| SGMAH-02A□A6□D-OY | 126.5         | 96.5  | 166        | 136   | 30 | 70             | 50 <sup>h7</sup> | 60 | 3   | 6  | 5.5 | 14 <sup>h6</sup> | 20 | 5 | 5 | 3   | M5 x 8L     | 1.1              | 1.6        |
| SGMAH-03D□A6□D-OY | 154.5         | 124.5 | 194        | 164   |    |                |                  |    |     |    |     |                  |    |   |   |     |             | 1.7              | 2.2        |
| SGMAH-04A□A6□D-OY |               |       |            |       |    |                |                  |    |     |    |     |                  |    |   |   |     |             | 1.7              | 2.2        |
| SGMAH-07D□A6□D-OY | 185           | 145   | 229.5      | 189.5 | 40 | 90             | 70 <sup>h7</sup> | 80 | 3   | 8  | 7   | 16 <sup>h6</sup> | 30 |   |   |     |             | 3.4              | 4.3        |
| SGMAH-08A□A6□D-OY |               |       |            |       |    |                |                  |    |     |    |     |                  |    |   |   |     |             | 3.4              | 4.3        |



Models without brake



Models with brake

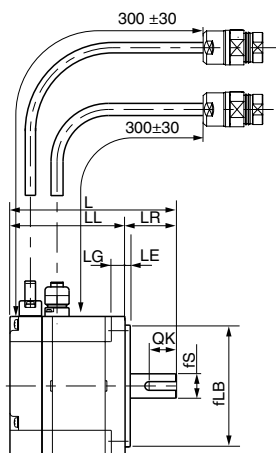


SGMAH-A3, -A5, -01

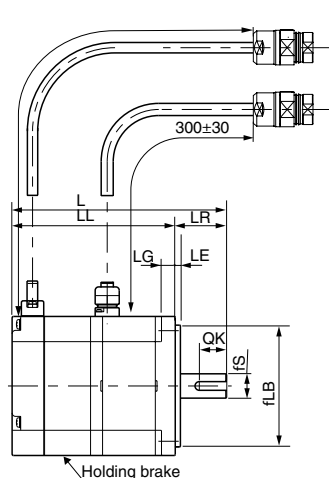
SGMAH-02 to -08

## Type SGMPH (230/400 V)

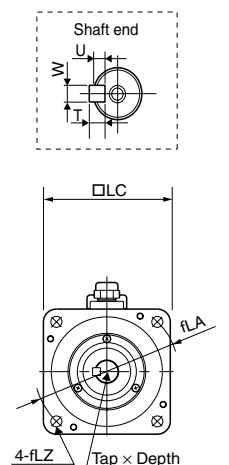
| Dimensions (mm)   | Without brake |       | With brake |       | LR | Flange surface |                   |     |     |    |     | Shaft end        |    |   |   |     |             | Aprox. Mass (Kg) |            |
|-------------------|---------------|-------|------------|-------|----|----------------|-------------------|-----|-----|----|-----|------------------|----|---|---|-----|-------------|------------------|------------|
| Model             | L             | LL    | L          | LL    |    | LA             | LB                | LC  | LE  | LG | LZ  | S                | QK | W | T | U   | Tap × depth | Without brake    | With brake |
| SGMPH-01□□□6□D-OY | 87            | 62    | 116        | 91    | 25 | 70             | 50 <sup>h7</sup>  | 60  | 3   | 6  | 5.5 | 8 <sup>h6</sup>  | 14 | 3 | 3 | 1.8 | M3x6L       | 0.7              | 0.9        |
| SGMPH-02□□□6□D-OY | 97            | 67    | 128.5      | 98.5  | 30 | 90             | 70 <sup>h7</sup>  | 80  | 3   | 8  | 7   | 14 <sup>h6</sup> | 16 | 5 | 5 | 3   | M5x8L       | 1.4              | 1.9        |
| SGMPH-04□□□6□D-OY | 117           | 87    | 148.5      | 118.5 |    |                |                   |     |     |    |     |                  |    |   |   |     |             | 2.1              | 2.6        |
| SGMPH-08□□□6□D-OY | 126.5         | 86.5  | 160        | 120   | 40 | 145            | 110 <sup>h7</sup> | 120 | 3.5 | 10 | 10  | 16 <sup>h6</sup> | 22 |   |   |     |             | 4.2              | 5.7        |
| SGMPH-15□□□6□D-OY | 154.5         | 114.5 | 188        | 148   |    |                |                   |     |     |    |     | 19 <sup>h6</sup> |    | 6 | 6 | 3.5 | M6x10L      | 6.6              | 8.1        |



Models without brake

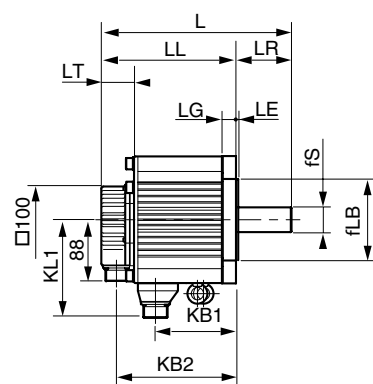


Models with brake

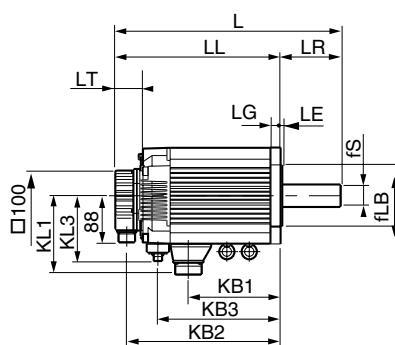


## Type SGMGH (400 V)

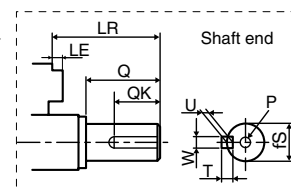
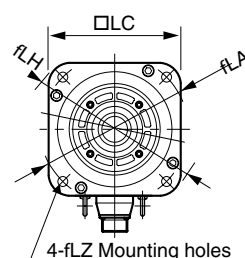
| Dimensions (mm) | Without brake |     |     | With brake |     |     |     |     | LR  | LT | KB1 | KL 1 | Flange surface |       |     |     |    |     |      | Shaft end |     |    |    |    |     |           | Aprox. Mass (Kg) |            |
|-----------------|---------------|-----|-----|------------|-----|-----|-----|-----|-----|----|-----|------|----------------|-------|-----|-----|----|-----|------|-----------|-----|----|----|----|-----|-----------|------------------|------------|
| Model           | L             | LL  | KB2 | L          | LL  | KB2 | KB3 | KL3 |     |    |     |      | LA             | LB    | LC  | LE  | LG | LH  | LZ   | S         | Q   | QK | W  | T  | U   | P         | With-out brake   | With brake |
| SGMGH-05D A6 OY | 196           | 138 | 117 | 234        | 176 | 154 | 109 | 98  | 58  | 46 | 65  | 109  | 145            | 110   | 130 | 6   | 12 | 165 | 9    | 19        | 40  | 25 | 5  | 5  | 3   | M5 x 12L  | 5.5              | 7.5        |
| SGMGH-09D A6 OY | 219           | 161 | 140 | 257        | 199 | 177 | 132 |     |     |    | 88  |      |                |       |     |     |    |     |      |           |     |    |    |    |     |           | 7.6              | 9.6        |
| SGMGH-13D A6 OY | 243           | 185 | 164 | 281        | 223 | 201 | 156 |     |     |    | 112 |      |                |       |     |     |    |     |      | 22        |     |    | 6  | 6  | 3.5 |           | 9.6              | 12         |
| SGMGH-20D A6 OY | 245           | 166 | 144 | 296        | 217 | 195 | 137 | 123 | 79  | 47 | 89  | 140  | 200            | 114.3 | 180 | 3.2 | 18 | 230 | 13.5 | 35        | 76  | 60 | 10 | 8  | 5   | M12 x 25L | 14               | 19         |
| SGMGH-30D A6 OY | 271           | 192 | 170 | 322        | 243 | 221 | 163 |     |     |    | 115 |      |                |       |     |     |    |     |      |           |     |    |    |    |     |           | 18               | 23.5       |
| SGMGH-44D A6 OY | 305           | 226 | 204 | 356        | 277 | 255 | 197 |     |     |    | 149 |      |                |       |     |     |    |     |      |           |     |    |    |    |     |           | 23               | 28.5       |
| SGMGH-55D A6 OY | 373           | 260 | 238 | 424        | 311 | 289 | 231 |     | 113 |    | 174 | 150  |                |       |     |     |    |     |      | 42        | 110 | 90 | 12 |    |     | M16 x 32L | 30               | 35         |
| SGMGH-75D A6 OY | 447           | 334 | 312 | 498        | 385 | 363 | 305 |     |     |    | 248 |      |                |       |     |     |    |     |      |           |     |    |    |    |     |           | 40               | 45.5       |
| SGMGH-1AD A6 OY | 454           | 338 | 316 | 499        | 383 | 362 | 315 | 142 | 116 | 47 | 251 | 168  | 235            | 200   | 220 | 4   | 18 | 270 | 13.5 | 42        | 110 | 90 | 12 | 8  | 5   | M16 x 32L | 57.5             | 65         |
| SGMGH-1ED A6 OY | 573           | 457 | 435 | 635        | 519 | 497 | 415 |     |     | 48 | 343 |      |                |       |     |     | 20 |     |      | 55        |     |    | 16 | 10 | 6   | M20 x 40L | 86               | 100        |



Models without brake

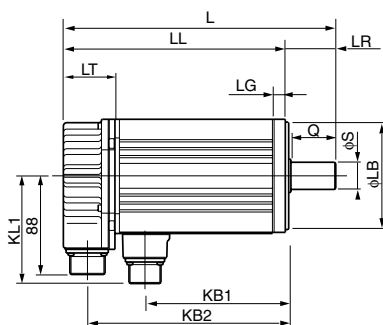


Models with brake

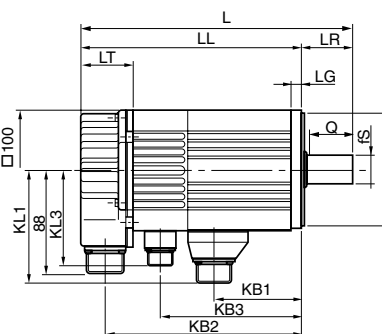


## Type SGMSH (400 V)

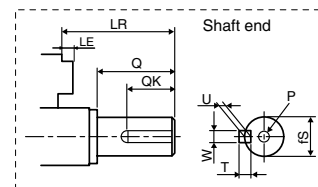
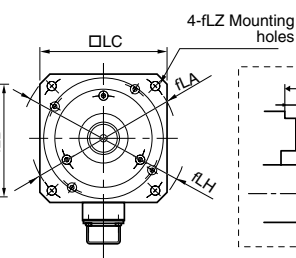
| Dimensions (mm) | Without brake |     |     | With brake |     |     |     |     | LR | LT | KB  | KL 1 | Flange surface |                   |     |    |    |     |    | Shaft end        |    |    |   |   |   |          | Aprox. Mass (Kg) |            |
|-----------------|---------------|-----|-----|------------|-----|-----|-----|-----|----|----|-----|------|----------------|-------------------|-----|----|----|-----|----|------------------|----|----|---|---|---|----------|------------------|------------|
| Model           | L             | LL  | KB2 | L          | LL  | KB2 | KB3 | KL3 |    |    |     |      | LA             | LB                | LC  | LE | LG | LH  | LZ | S                | Q  | QK | W | T | U | P        | With-out brake   | With brake |
| SGMSH-10D A6 OY | 194           | 149 | 128 | 238        | 193 | 171 | 120 | 85  | 45 | 46 | 76  | 96   | 115            | 95 <sup>h7</sup>  | 100 | 3  | 10 | 130 | 7  | 24 <sup>h6</sup> | 40 | 32 | 8 | 7 | 4 | M8 x 16L | 4.6              | 6.0        |
| SGMSH-15D A6 OY | 220           | 175 | 154 | 264        | 219 | 197 | 146 |     |    |    | 102 |      |                |                   |     |    |    |     |    |                  |    |    |   |   |   |          | 5.8              | 7.5        |
| SGMSH-20D A6 OY | 243           | 198 | 177 | 287        | 242 | 220 | 169 |     |    |    | 125 |      |                |                   |     |    |    |     |    |                  |    |    |   |   |   |          | 7.0              | 8.5        |
| SGMSH-30D A6 OY | 262           | 199 | 178 | 300        | 237 | 216 | 170 | 98  | 63 |    | 124 | 114  | 145            | 110 <sup>h7</sup> | 130 | 6  | 12 | 165 | 9  | 28 <sup>h6</sup> | 55 | 50 |   |   |   |          | 11               | 14         |
| SGMSH-40D A6 OY | 299           | 236 | 215 | 337        | 274 | 253 | 207 |     |    |    | 161 |      |                |                   |     |    |    |     |    |                  |    |    |   |   |   |          | 14               | 17         |
| SGMSH-50D A6 OY | 339           | 276 | 255 | 377        | 314 | 293 | 247 |     |    |    | 201 |      |                |                   |     |    |    |     |    |                  |    |    |   |   |   |          | 17               | 20         |



Models without brake



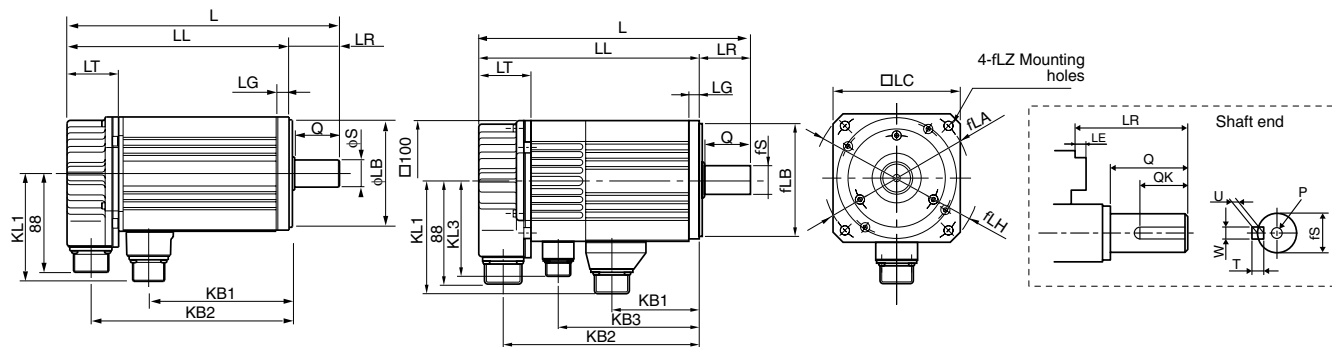
Models with brake



# OMRON

## Type SGMUH (400 V)

| Dimensions (mm)  | Without brake |     |     | With brake |     |     |     |     | LR | LT | KB1 | KL1 | Flange surface |     |     |     |    |     |    | Shaft end        |    |    |   |   |   |          | Aprox. Mass (Kg) |            |
|------------------|---------------|-----|-----|------------|-----|-----|-----|-----|----|----|-----|-----|----------------|-----|-----|-----|----|-----|----|------------------|----|----|---|---|---|----------|------------------|------------|
| Model            | L             | LL  | KB2 | L          | LL  | KB2 | KB3 | KL3 |    |    |     |     | LA             | LB  | LC  | LE  | LG | LH  | LZ | S                | Q  | QK | W | T | U | P        | With-out brake   | With brake |
| SGMUH-10D□A6□-OY | 194           | 149 | 128 | 238        | 193 | 171 | 120 | 85  | 45 | 46 | 76  | 96  | 130            | 110 | 116 | 3.5 | 10 | 150 | 9  | 24 <sup>h6</sup> | 40 | 32 | 8 | 7 | 4 | M8 x 16L | 4.8              | 6.2        |
| SGMUH-15D□A6□-OY | 220           | 175 | 154 | 264        | 219 | 197 | 146 |     |    |    | 102 |     |                | 130 |     |     |    |     |    |                  |    |    |   |   |   |          | 6.0              | 7.7        |
| SGMUH-30D□A6□-OY | 262           | 202 | 181 | 300        | 237 | 219 | 173 | 98  | 60 |    | 127 | 114 | 165            | 130 | 155 |     | 12 | 190 | 11 | 28 <sup>h6</sup> | 55 | 50 |   |   |   |          | 11.5             | 14.5       |
| SGMUH-40D□A6□-OY | 327           | 269 | 245 | 362        | 302 | 281 | 210 |     | 71 |    | 164 |     |                |     |     |     |    |     |    |                  |    |    |   |   |   |          | 15               | 18         |

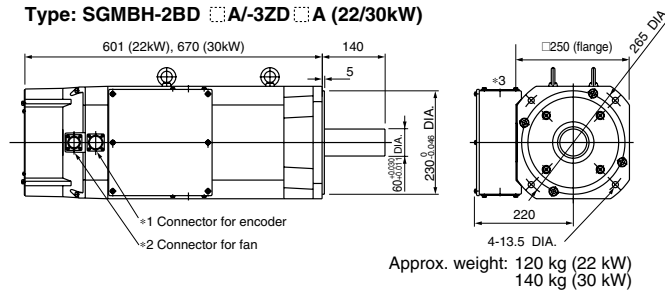


Models without brake

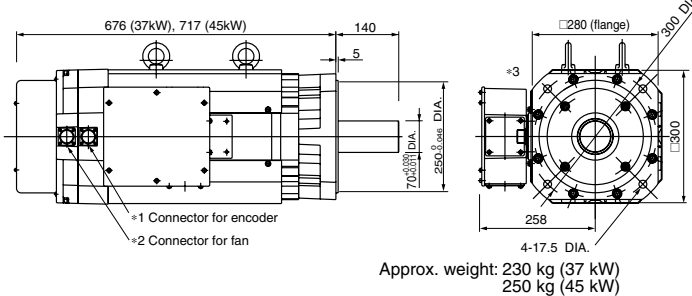
Models with brake

## Type SGBMH (400 V)

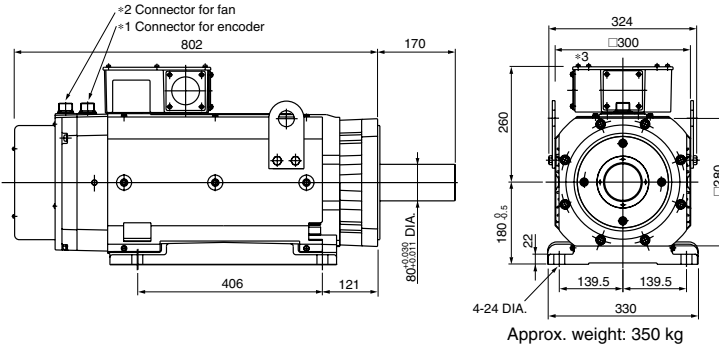
### Type: SGBMH-2BD □A/-3ZD □A (22/30kW)



### Type: SGBMH-3GD □A /-4E □A37/45kW

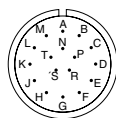


### Type: SGBMH-5ED □A (55kW)

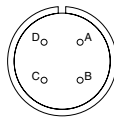


\*1 Connector for encoder

\*2 Connector for fan



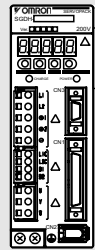
Receptacle: 97F-3102E20-29P  
Plug IP67 (L-shape): MS3108E20-29S



Receptacle: CE05-2A18-10PD-B  
Plug IP67 (L-shape): MS3108E18-10S

## Ordering information

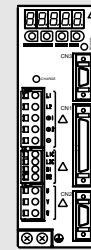
(Refer to servo drive chapter)



Servo drive with option boards for flexible system configuration

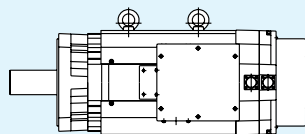
② **Sigma-II Servo Drive**

Drive options

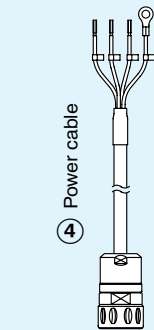


Intelligent servo drive

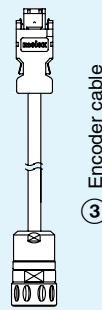
② **XtraDrive**



① **SGBH Servo Motor**  
1500 rpm  
(22 kW-55 kW)

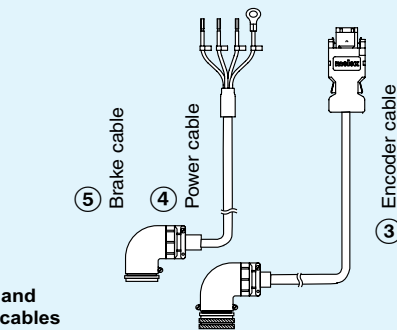


① **SGMAH Servo Motor**  
3000 rpm  
(30-750 W)



① **SGMPH Servo Motor**  
3000 rpm  
(100-1500 W)

Power and encoder cables



① **SGMGH Servo Motor**  
1500 rpm  
(450W-15 kW)

① **SGMUH Servo Motor**  
3000 rpm  
(1-5 kW)

① **SGMSH Servo Motor**  
6000 rpm  
(1-4 kW)

**Note:** The symbols ①②③... show the recommended sequence to select the servo motor and cables

### Servo motor

① Select motor from families SGMAH, SGMPH, SGMGH, SGMUH, SGMSH, SGBH using motor tables in next pages.

### Servo drive

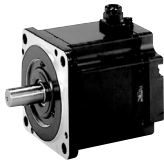
**Note:** Choosing Sigma-II drive or XtraDrive affects to the encoder cable needed.

② Refer to Sigma-II servo drive or XtraDrive chapter for detailed drive specifications and selection of drive accessories.

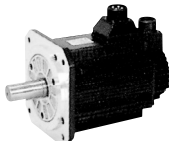
## SGMAH - cylindrical servo motors 3000 r/min (30 - 750 W)

| Symbol                                                                            | Specifications |                                                                          |               |                   |                   | Servo motor model | Compatible servo drives ② |            |
|-----------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------|---------------|-------------------|-------------------|-------------------|---------------------------|------------|
|                                                                                   | Voltage        | Encoder and design                                                       |               | Rated torque      | Capacity          |                   | Sigma-II                  | XtraDrive  |
|  | 230 V          | <b>Incremental encoder (13 bit)</b><br><br>Straight shaft with key & tap | Without brake | 0.096 Nm          | 30 W              | SGMAH-A3AAA61D-OY | SGDH-A3AE-OY              | XD-P3-MN01 |
|                                                                                   |                |                                                                          |               | 0.159 Nm          | 50 W              | SGMAH-A5AAA61D-OY | SGDH-A5AE-OY              | XD-P5-MN01 |
|                                                                                   |                |                                                                          |               | 0.318 Nm          | 100 W             | SGMAH-01AAA61D-OY | SGDH-01AE-OY              | XD-01-MN01 |
|                                                                                   |                |                                                                          |               | 0.637 Nm          | 200 W             | SGMAH-02AAA61D-OY | SGDH-02AE-OY              | XD-02-MN01 |
|                                                                                   |                |                                                                          |               | 1.27 Nm           | 400 W             | SGMAH-04AAA61D-OY | SGDH-04AE-OY              | XD-04-MN01 |
|                                                                                   |                |                                                                          | 2.39 Nm       | 750 W             | SGMAH-08AAA61D-OY | SGDH-08AE-S-OY    | XD-08-MN                  |            |
|                                                                                   |                |                                                                          | With brake    | 0.096 Nm          | 30 W              | SGMAH-A3AAA6CD-OY | SGDH-A3AE-OY              | XD-P3-MN01 |
|                                                                                   |                |                                                                          |               | 0.159 Nm          | 50 W              | SGMAH-A5AAA6CD-OY | SGDH-A5AE-OY              | XD-P5-MN01 |
|                                                                                   |                |                                                                          |               | 0.318 Nm          | 100 W             | SGMAH-01AAA6CD-OY | SGDH-01AE-OY              | XD-01-MN01 |
|                                                                                   |                |                                                                          |               | 0.637 Nm          | 200 W             | SGMAH-02AAA6CD-OY | SGDH-02AE-OY              | XD-02-MN01 |
|                                                                                   |                | 1.27 Nm                                                                  |               | 400 W             | SGMAH-04AAA6CD-OY | SGDH-04AE-OY      | XD-04-MN01                |            |
|                                                                                   |                | 2.39 Nm                                                                  | 750 W         | SGMAH-08AAA6CD-OY | SGDH-08AE-S-OY    | XD-08-MN          |                           |            |
|                                                                                   |                | <b>Absolute encoder (16 bit)</b><br><br>Straight shaft with key & tap    | Without brake | 0.096 Nm          | 30 W              | SGMAH-A3A1A61D-OY | SGDH-A3AE-OY              | XD-P3-MN01 |
|                                                                                   |                |                                                                          |               | 0.159 Nm          | 50 W              | SGMAH-A5A1A61D-OY | SGDH-A5AE-OY              | XD-P5-MN01 |
|                                                                                   |                |                                                                          |               | 0.318 Nm          | 100 W             | SGMAH-01A1A61D-OY | SGDH-01AE-OY              | XD-01-MN01 |
|                                                                                   |                |                                                                          |               | 0.637 Nm          | 200 W             | SGMAH-02A1A61D-OY | SGDH-02AE-OY              | XD-02-MN01 |
|                                                                                   |                |                                                                          |               | 1.27 Nm           | 400 W             | SGMAH-04A1A61D-OY | SGDH-04AE-OY              | XD-04-MN01 |
|                                                                                   |                |                                                                          | 2.39 Nm       | 750 W             | SGMAH-08A1A61D-OY | SGDH-08AE-S-OY    | XD-08-MN                  |            |
|                                                                                   |                |                                                                          | With brake    | 0.096 Nm          | 30 W              | SGMAH-A3A1A6CD-OY | SGDH-A3AE-OY              | XD-P3-MN01 |
|                                                                                   |                |                                                                          |               | 0.159 Nm          | 50 W              | SGMAH-A5A1A6CD-OY | SGDH-A5AE-OY              | XD-P5-MN01 |
|                                                                                   |                |                                                                          |               | 0.318 Nm          | 100 W             | SGMAH-01A1A6CD-OY | SGDH-01AE-OY              | XD-01-MN01 |
|                                                                                   |                |                                                                          |               | 0.637 Nm          | 200 W             | SGMAH-02A1A6CD-OY | SGDH-02AE-OY              | XD-02-MN01 |
|                                                                                   |                | 1.27 Nm                                                                  |               | 400 W             | SGMAH-04A1A6CD-OY | SGDH-04AE-OY      | XD-04-MN01                |            |
|                                                                                   |                | 2.39 Nm                                                                  | 750 W         | SGMAH-08A1A6CD-OY | SGDH-08AE-S-OY    | XD-08-MN          |                           |            |
|                                                                                   | 400 V          | <b>Incremental encoder (13 bit)</b><br>Straight shaft with key           | Without brake | 0.955 Nm          | 300 W             | SGMAH-03DAA61D-OY | SGDH-05DE-OY              | XD-05-TN   |
|                                                                                   |                |                                                                          |               | 2.07 Nm           | 650 W             | SGMAH-07DAA61D-OY | SGDH-10DE-OY              | XD-10-TN   |
|                                                                                   |                |                                                                          | With brake    | 0.955 Nm          | 300 W             | SGMAH-03DAA6CD-OY | SGDH-05DE-OY              | XD-05-TN   |
|                                                                                   |                |                                                                          |               | 2.07 Nm           | 650 W             | SGMAH-07DAA6CD-OY | SGDH-10DE-OY              | XD-10-TN   |
|                                                                                   |                | <b>Absolute encoder (16 bit)</b><br>Straight shaft with key              | Without brake | 0.955 Nm          | 300 W             | SGMAH-03D1A61D-OY | SGDH-05DE-OY              | XD-05-TN   |
|                                                                                   |                |                                                                          |               | 2.07 Nm           | 650 W             | SGMAH-07D1A61D-OY | SGDH-10DE-OY              | XD-10-TN   |
|                                                                                   |                |                                                                          | With brake    | 0.955 Nm          | 300 W             | SGMAH-03D1A6CD-OY | SGDH-05DE-OY              | XD-05-TN   |
|                                                                                   |                |                                                                          |               | 2.07 Nm           | 650 W             | SGMAH-07D1A6CD-OY | SGDH-10DE-OY              | XD-10-TN   |

## SGMPH - flat type servo motors 3000 r/min (100 - 1500 W)

| Symbol                                                                              | Specifications |                                                                          |                                                                 |                   | Servo motor model | Compatible servo drives ② |                   |                   |              |
|-------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------|-------------------|---------------------------|-------------------|-------------------|--------------|
|                                                                                     | Voltage        | Encoder and design                                                       |                                                                 | Rated torque      |                   | Capacity                  | Sigma-II          | XtraDrive         |              |
|  | 230 V          | <b>Incremental encoder (13 bit)</b><br><br>Straight shaft with key & tap | Without brake                                                   | 0.318 Nm          | 100 W             | SGMPH-01AAA61D-OY         | SGDH-01AE-OY      | XD-01-MN01        |              |
|                                                                                     |                |                                                                          |                                                                 | 0.637 Nm          | 200 W             | SGMPH-02AAA61D-OY         | SGDH-02AE-OY      | XD-02-MN01        |              |
|                                                                                     |                |                                                                          |                                                                 | 1.27 Nm           | 400 W             | SGMPH-04AAA61D-OY         | SGDH-04AE-OY      | XD-04-MN01        |              |
|                                                                                     |                |                                                                          |                                                                 | 2.39 Nm           | 750 W             | SGMPH-08AAA61D-OY         | SGDH-08AE-S-OY    | XD-08-MN          |              |
|                                                                                     |                |                                                                          |                                                                 | 4.77 Nm           | 1500 W            | SGMPH-15AAA61D-OY         | SGDH-15AE-S-OY    | XD-15-MN          |              |
|                                                                                     |                |                                                                          | With brake                                                      | 0.318 Nm          | 100 W             | SGMPH-01AAA6CD-OY         | SGDH-01AE-OY      | XD-01-MN01        |              |
|                                                                                     |                |                                                                          |                                                                 | 0.637 Nm          | 200 W             | SGMPH-02AAA6CD-OY         | SGDH-02AE-OY      | XD-02-MN01        |              |
|                                                                                     |                |                                                                          |                                                                 | 1.27 Nm           | 400 W             | SGMPH-04AAA6CD-OY         | SGDH-04AE-OY      | XD-04-MN01        |              |
|                                                                                     |                |                                                                          |                                                                 | 2.39 Nm           | 750 W             | SGMPH-08AAA6CD-OY         | SGDH-08AE-S-OY    | XD-08-MN          |              |
|                                                                                     |                |                                                                          |                                                                 | 4.77 Nm           | 1500 W            | SGMPH-15AAA6CD-OY         | SGDH-15AE-S-OY    | XD-15-MN          |              |
|                                                                                     |                | <b>Absolute encoder (16 bit)</b><br><br>Straight shaft with key & tap    | Without brake                                                   | 0.318 Nm          | 100 W             | SGMPH-01A1A61D-OY         | SGDH-01AE-OY      | XD-01-MN01        |              |
|                                                                                     |                |                                                                          |                                                                 | 0.637 Nm          | 200 W             | SGMPH-02A1A61D-OY         | SGDH-02AE-OY      | XD-02-MN01        |              |
|                                                                                     |                |                                                                          |                                                                 | 1.27 Nm           | 400 W             | SGMPH-04A1A61D-OY         | SGDH-04AE-OY      | XD-04-MN01        |              |
|                                                                                     |                |                                                                          |                                                                 | 2.39 Nm           | 750 W             | SGMPH-08A1A61D-OY         | SGDH-08AE-S-OY    | XD-08-MN          |              |
|                                                                                     |                |                                                                          |                                                                 | 4.77 Nm           | 1500 W            | SGMPH-15A1A61D-OY         | SGDH-15AE-S-OY    | XD-15-MN          |              |
|                                                                                     |                |                                                                          | With brake                                                      | 0.318 Nm          | 100 W             | SGMPH-01A1A6CD-OY         | SGDH-01AE-OY      | XD-01-MN01        |              |
|                                                                                     |                |                                                                          |                                                                 | 0.637 Nm          | 200 W             | SGMPH-02A1A6CD-OY         | SGDH-02AE-OY      | XD-02-MN01        |              |
|                                                                                     |                |                                                                          |                                                                 | 1.27 Nm           | 400 W             | SGMPH-04A1A6CD-OY         | SGDH-04AE-OY      | XD-04-MN01        |              |
|                                                                                     |                |                                                                          |                                                                 | 2.39 Nm           | 750 W             | SGMPH-08A1A6CD-OY         | SGDH-08AE-S-OY    | XD-08-MN          |              |
|                                                                                     |                |                                                                          |                                                                 | 4.77 Nm           | 1500 W            | SGMPH-15A1A6CD-OY         | SGDH-15AE-S-OY    | XD-15-MN          |              |
|                                                                                     | 400 V          | <b>Incremental encoder (13 bit)</b><br><br>Straight shaft with key       | Without brake                                                   | 0.637 Nm          | 200 W             | SGMPH-02DAA61D-OY         | SGDH-05DE-OY      | XD-05-TN          |              |
|                                                                                     |                |                                                                          |                                                                 | 1.27 Nm           | 400 W             | SGMPH-04DAA61D-OY         | SGDH-05DE-OY      | XD-05-TN          |              |
|                                                                                     |                |                                                                          |                                                                 | 2.39 Nm           | 750 W             | SGMPH-08DAA61D-OY         | SGDH-10DE-OY      | XD-10-TN          |              |
|                                                                                     |                |                                                                          |                                                                 | 4.77 Nm           | 1500 W            | SGMPH-15DAA61D-OY         | SGDH-15DE-OY      | XD-15-TN          |              |
|                                                                                     |                |                                                                          |                                                                 | With brake        | 0.637 Nm          | 200 W                     | SGMPH-02DAA6CD-OY | SGDH-05DE-OY      | XD-05-TN     |
|                                                                                     |                |                                                                          | 1.27 Nm                                                         |                   | 400 W             | SGMPH-04DAA6CD-OY         | SGDH-05DE-OY      | XD-05-TN          |              |
|                                                                                     |                |                                                                          | 2.39 Nm                                                         |                   | 750 W             | SGMPH-08DAA6CD-OY         | SGDH-10DE-OY      | XD-10-TN          |              |
|                                                                                     |                |                                                                          | 4.77 Nm                                                         |                   | 1500 W            | SGMPH-15DAA6CD-OY         | SGDH-15DE-OY      | XD-15-TN          |              |
|                                                                                     |                |                                                                          | <b>Absolute encoder (16 bit)</b><br><br>Straight shaft with key |                   | Without brake     | 0.637 Nm                  | 200 W             | SGMPH-02D1A61D-OY | SGDH-05DE-OY |
|                                                                                     |                |                                                                          |                                                                 | 1.27 Nm           |                   | 400 W                     | SGMPH-04D1A61D-OY | SGDH-05DE-OY      | XD-05-TN     |
|                                                                                     |                | 2.39 Nm                                                                  |                                                                 | 750 W             |                   | SGMPH-08D1A61D-OY         | SGDH-10DE-OY      | XD-10-TN          |              |
|                                                                                     |                |                                                                          |                                                                 |                   | 4.77 Nm           | 1500 W                    | SGMPH-15D1A61D-OY | SGDH-15DE-OY      | XD-15-TN     |
|                                                                                     |                |                                                                          | With brake                                                      |                   | 0.637 Nm          | 200 W                     | SGMPH-02D1A6CD-OY | SGDH-05DE-OY      | XD-05-TN     |
|                                                                                     |                |                                                                          |                                                                 |                   | 1.27 Nm           | 400 W                     | SGMPH-04D1A6CD-OY | SGDH-05DE-OY      | XD-05-TN     |
| 2.39 Nm                                                                             | 750 W          |                                                                          |                                                                 |                   | SGMPH-08D1A6CD-OY | SGDH-10DE-OY              | XD-10-TN          |                   |              |
| 4.77 Nm                                                                             | 1500 W         |                                                                          |                                                                 | SGMPH-15D1A6CD-OY | SGDH-15DE-OY      | XD-15-TN                  |                   |                   |              |

## SGMGH - servo motors 1500 r/min (0.45 - 15 kW)

| Symbol                                                                            | Specifications |                                                                   |               |              | Servo motor model | Compatible servo drives ② |              |           |
|-----------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------|---------------|--------------|-------------------|---------------------------|--------------|-----------|
|                                                                                   | Voltage        | Encoder and design                                                |               | Rated torque |                   | Capacity                  | Sigma-II     | XtraDrive |
|  | 400 V          | Incremental encoder (17 bit)<br><br>Straight shaft with key & tap | Without brake | 2.84 Nm      | 0.45 kW           | SGMGH-05DCA6F-OY          | SGDH-05DE-OY | XD-05-TN  |
|                                                                                   |                |                                                                   |               | 5.39 Nm      | 0.85 kW           | SGMGH-09DCA6F-OY          | SGDH-10DE-OY | XD-10-TN  |
|                                                                                   |                |                                                                   |               | 8.34 Nm      | 1.3 kW            | SGMGH-13DCA6F-OY          | SGDH-15DE-OY | XD-15-TN  |
|                                                                                   |                |                                                                   |               | 11.5 Nm      | 1.8 kW            | SGMGH-20DCA6F-OY          | SGDH-20DE-OY | XD-20-TN  |
|                                                                                   |                |                                                                   |               | 18.6 Nm      | 2.9 kW            | SGMGH-30DCA6F-OY          | SGDH-30DE-OY | XD-30-TN  |
|                                                                                   |                |                                                                   |               | 28.4 Nm      | 4.4 kW            | SGMGH-44DCA6F-OY          | SGDH-50DE-OY | XD-50-TN  |
|                                                                                   |                |                                                                   |               | 35.0 Nm      | 5.5 kW            | SGMGH-55DCA6F-OY          | SGDH-60DE-OY | -         |
|                                                                                   |                |                                                                   |               | 48.0 Nm      | 7.5 kW            | SGMGH-75DCA6F-OY          | SGDH-75DE-OY | -         |
|                                                                                   |                |                                                                   |               | 70.0 Nm      | 11.5 kW           | SGMGH-1ADCA6F-OY          | SGDH-1ADE-OY | -         |
|                                                                                   |                |                                                                   |               | 95.4 Nm      | 15.0 kW           | SGMGH-1EDCA6F-OY          | SGDH-1EDE-OY | -         |
|                                                                                   |                |                                                                   | With brake    | 2.84 Nm      | 0.45 kW           | SGMGH-05DCA6H-OY          | SGDH-05DE-OY | XD-05-TN  |
|                                                                                   |                |                                                                   |               | 5.39 Nm      | 0.85 kW           | SGMGH-09DCA6H-OY          | SGDH-10DE-OY | XD-10-TN  |
|                                                                                   |                |                                                                   |               | 8.34 Nm      | 1.3 kW            | SGMGH-13DCA6H-OY          | SGDH-15DE-OY | XD-15-TN  |
|                                                                                   |                |                                                                   |               | 11.5 Nm      | 1.8 kW            | SGMGH-20DCA6H-OY          | SGDH-20DE-OY | XD-20-TN  |
|                                                                                   |                |                                                                   |               | 18.6 Nm      | 2.9 kW            | SGMGH-30DCA6H-OY          | SGDH-30DE-OY | XD-30-TN  |
|                                                                                   |                |                                                                   |               | 28.4 Nm      | 4.4 kW            | SGMGH-44DCA6H-OY          | SGDH-50DE-OY | XD-50-TN  |
|                                                                                   |                |                                                                   |               | 35.0 Nm      | 5.5 kW            | SGMGH-55DCA6H-OY          | SGDH-60DE-OY | -         |
|                                                                                   |                |                                                                   |               | 48.0 Nm      | 7.5 kW            | SGMGH-75DCA6H-OY          | SGDH-75DE-OY | -         |
|                                                                                   |                |                                                                   |               | 70.0 Nm      | 11.5 kW           | SGMGH-1ADCA6H-OY          | SGDH-1ADE-OY | -         |
|                                                                                   |                |                                                                   |               | 95.4 Nm      | 15.0 kW           | SGMGH-1EDCA6H-OY          | SGDH-1EDE-OY | -         |
|                                                                                   |                | Absolute encoder (17 bit)<br><br>Straight shaft with key & tap    | Without brake | 2.84 Nm      | 0.45 kW           | SGMGH-05D2A6F-OY          | SGDH-05DE-OY | XD-05-TN  |
|                                                                                   |                |                                                                   |               | 5.39 Nm      | 0.85 kW           | SGMGH-09D2A6F-OY          | SGDH-10DE-OY | XD-10-TN  |
|                                                                                   |                |                                                                   |               | 8.34 Nm      | 1.3 kW            | SGMGH-13D2A6F-OY          | SGDH-15DE-OY | XD-15-TN  |
|                                                                                   |                |                                                                   |               | 11.5 Nm      | 1.8 kW            | SGMGH-20D2A6F-OY          | SGDH-20DE-OY | XD-20-TN  |
|                                                                                   |                |                                                                   |               | 18.6 Nm      | 2.9 kW            | SGMGH-30D2A6F-OY          | SGDH-30DE-OY | XD-30-TN  |
|                                                                                   |                |                                                                   |               | 28.4 Nm      | 4.4 kW            | SGMGH-44D2A6F-OY          | SGDH-50DE-OY | XD-50-TN  |
|                                                                                   |                |                                                                   |               | 35.0 Nm      | 5.5 kW            | SGMGH-55D2A6F-OY          | SGDH-60DE-OY | -         |
|                                                                                   |                |                                                                   |               | 48.0 Nm      | 7.5 kW            | SGMGH-75D2A6F-OY          | SGDH-75DE-OY | -         |
|                                                                                   |                |                                                                   |               | 70.0 Nm      | 11.5 kW           | SGMGH-1AD2A6F-OY          | SGDH-1ADE-OY | -         |
|                                                                                   |                |                                                                   |               | 95.4 Nm      | 15.0 kW           | SGMGH-1ED2A6F-OY          | SGDH-1EDE-OY | -         |
|                                                                                   |                |                                                                   | With brake    | 2.84 Nm      | 0.45 kW           | SGMGH-05D2A6H-OY          | SGDH-05DE-OY | XD-05-TN  |
|                                                                                   |                |                                                                   |               | 5.39 Nm      | 0.85 kW           | SGMGH-09D2A6H-OY          | SGDH-10DE-OY | XD-10-TN  |
|                                                                                   |                |                                                                   |               | 8.34 Nm      | 1.3 kW            | SGMGH-13D2A6H-OY          | SGDH-15DE-OY | XD-15-TN  |
|                                                                                   |                |                                                                   |               | 11.5 Nm      | 1.8 kW            | SGMGH-20D2A6H-OY          | SGDH-20DE-OY | XD-20-TN  |
|                                                                                   |                |                                                                   |               | 18.6 Nm      | 2.9 kW            | SGMGH-30D2A6H-OY          | SGDH-30DE-OY | XD-30-TN  |
|                                                                                   |                |                                                                   |               | 28.4 Nm      | 4.4 kW            | SGMGH-44D2A6H-OY          | SGDH-50DE-OY | XD-50-TN  |
|                                                                                   |                |                                                                   |               | 35.0 Nm      | 5.5 kW            | SGMGH-55D2A6H-OY          | SGDH-60DE-OY | -         |
|                                                                                   |                |                                                                   |               | 48.0 Nm      | 7.5 kW            | SGMGH-75D2A6H-OY          | SGDH-75DE-OY | -         |
|                                                                                   |                |                                                                   |               | 70.0 Nm      | 11.5 kW           | SGMGH-1AD2A6H-OY          | SGDH-1ADE-OY | -         |
|                                                                                   |                |                                                                   |               | 95.4 Nm      | 15.0 kW           | SGMGH-1ED2A6H-OY          | SGDH-1EDE-OY | -         |

## SGMSH - servo motors 3000 r/min (1 - 5 kW)

| Symbol | Specifications |                                 |                  |          | Servo motor model | Compatible servo drives ② |              |          |
|--------|----------------|---------------------------------|------------------|----------|-------------------|---------------------------|--------------|----------|
|        | Voltage        | Encoder and design              | Rated torque     | Capacity |                   | Sigma-II                  | XtraDrive    |          |
| ①      | 400 V          | Incremental encoder<br>(17 bit) | Without<br>brake | 3.18 Nm  | 1.0 kW            | SGMSH-10DCA6F-OY          | SGDH-10DE-OY | XD-10-TN |
|        |                |                                 |                  | 4.9 Nm   | 1.5 kW            | SGMSH-15DCA6F-OY          | SGDH-15DE-OY | XD-15-TN |
|        |                |                                 |                  | 6.36 Nm  | 2.0 kW            | SGMSH-20DCA6F-OY          | SGDH-20DE-OY | XD-20-TN |
|        |                |                                 |                  | 9.8 Nm   | 3.0 kW            | SGMSH-30DCA6F-OY          | SGDH-30DE-OY | XD-30-TN |
|        |                |                                 |                  | 12.6 Nm  | 4.0 kW            | SGMSH-40DCA6F-OY          | SGDH-50DE-OY | XD-50-TN |
|        |                |                                 |                  | 15.8 Nm  | 5.0 kW            | SGMSH-50DCA6F-OY          | SGDH-50DE-OY | XD-50-TN |
|        |                |                                 | With<br>brake    | 3.18 Nm  | 1.0 kW            | SGMSH-10DCA6H-OY          | SGDH-10DE-OY | XD-10-TN |
|        |                |                                 |                  | 4.9 Nm   | 1.5 kW            | SGMSH-15DCA6H-OY          | SGDH-15DE-OY | XD-15-TN |
|        |                |                                 |                  | 6.36 Nm  | 2.0 kW            | SGMSH-20DCA6H-OY          | SGDH-20DE-OY | XD-20-TN |
|        |                |                                 |                  | 9.8 Nm   | 3.0 kW            | SGMSH-30DCA6H-OY          | SGDH-30DE-OY | XD-30-TN |
|        |                |                                 |                  | 12.6 Nm  | 4.0 kW            | SGMSH-40DCA6H-OY          | SGDH-50DE-OY | XD-50-TN |
|        |                |                                 |                  | 15.8 Nm  | 5.0 kW            | SGMSH-50DCA6H-OY          | SGDH-50DE-OY | XD-50-TN |
|        |                | Absolute encoder<br>(17 bit)    | Without<br>brake | 3.18 Nm  | 1.0 kW            | SGMSH-10D2A6F-OY          | SGDH-10DE-OY | XD-10-TN |
|        |                |                                 |                  | 4.9 Nm   | 1.5 kW            | SGMSH-15D2A6F-OY          | SGDH-15DE-OY | XD-15-TN |
|        |                |                                 |                  | 6.36 Nm  | 2.0 kW            | SGMSH-20D2A6F-OY          | SGDH-20DE-OY | XD-20-TN |
|        |                |                                 |                  | 9.8 Nm   | 3.0 kW            | SGMSH-30D2A6F-OY          | SGDH-30DE-OY | XD-30-TN |
|        |                |                                 |                  | 12.6 Nm  | 4.0 kW            | SGMSH-40D2A6F-OY          | SGDH-50DE-OY | XD-50-TN |
|        |                |                                 |                  | 15.8 Nm  | 5.0 kW            | SGMSH-50D2A6F-OY          | SGDH-50DE-OY | XD-50-TN |
|        |                |                                 | With<br>brake    | 3.18 Nm  | 1.0 kW            | SGMSH-10D2A6H-OY          | SGDH-10DE-OY | XD-10-TN |
|        |                |                                 |                  | 4.9 Nm   | 1.5 kW            | SGMSH-15D2A6H-OY          | SGDH-15DE-OY | XD-15-TN |
|        |                |                                 |                  | 6.36 Nm  | 2.0 kW            | SGMSH-20D2A6H-OY          | SGDH-20DE-OY | XD-20-TN |
|        |                |                                 |                  | 9.8 Nm   | 3.0 kW            | SGMSH-30D2A6H-OY          | SGDH-30DE-OY | XD-30-TN |
|        |                |                                 |                  | 12.6 Nm  | 4.0 kW            | SGMSH-40D2A6H-OY          | SGDH-50DE-OY | XD-50-TN |
|        |                |                                 |                  | 15.8 Nm  | 5.0 kW            | SGMSH-50D2A6H-OY          | SGDH-50DE-OY | XD-50-TN |

## SGMUH - servo motors 6000 r/min (1 - 4 kW)

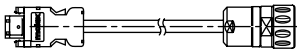
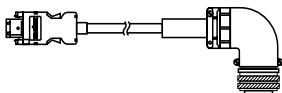
| Symbol                                                                            | Specifications |                                                         |               |              |          | Servo motor model | Compatible servo drives (2) |           |
|-----------------------------------------------------------------------------------|----------------|---------------------------------------------------------|---------------|--------------|----------|-------------------|-----------------------------|-----------|
|                                                                                   | Voltage        | Encoder and design                                      |               | Rated torque | Capacity |                   | Sigma-II                    | XtraDrive |
|  | 400 V          | Incremental encoder (17 bit)<br>Straight shaft with key | Without brake | 1.59 Nm      | 1.0 kW   | SGMUH-10DCA61-OY  | SGDH-10DE-OY                | XD-10-TN  |
|                                                                                   |                |                                                         |               | 2.45 Nm      | 1.5 kW   | SGMUH-15DCA61-OY  | SGDH-15DE-OY                | XD-15-TN  |
|                                                                                   |                |                                                         |               | 4.9 Nm       | 3.0 kW   | SGMUH-30DCA61-OY  | SGDH-30DE-OY                | XD-30-TN  |
|                                                                                   |                |                                                         |               | 6.3 Nm       | 4.0 kW   | SGMUH-40DCA61-OY  | SGDH-50DE-OY                | XD-50-TN  |
|                                                                                   |                |                                                         | With brake    | 1.59 Nm      | 1.0 kW   | SGMUH-10DCA6C-OY  | SGDH-10DE-OY                | XD-10-TN  |
|                                                                                   |                |                                                         |               | 2.45 Nm      | 1.5 kW   | SGMUH-15DCA6C-OY  | SGDH-15DE-OY                | XD-15-TN  |
|                                                                                   |                |                                                         |               | 4.9 Nm       | 3.0 kW   | SGMUH-30DCA6C-OY  | SGDH-30DE-OY                | XD-30-TN  |
|                                                                                   |                |                                                         |               | 6.3 Nm       | 4.0 kW   | SGMUH-40DCA6C-OY  | SGDH-50DE-OY                | XD-50-TN  |

## SGBMH - servo motors 1500 r/min (22 - 55 kW)

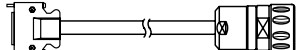
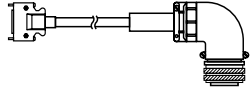
| Symbol                                                                             | Specifications |                                                               |                               |              |          | Servo motor model | Compatible drives (2) |  |
|------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------|-------------------------------|--------------|----------|-------------------|-----------------------|--|
|                                                                                    | Voltage        | Encoder and design                                            |                               | Rated torque | Capacity |                   | Sigma-II              |  |
|  | 400 V          | Incremental encoder (17 bit)<br>Straight shaft with key & tap | Without brake<br>Flange mount | 140 Nm       | 22 kW    | SGBMH-2BDCA61     | SGDH-2BDE             |  |
|                                                                                    |                |                                                               |                               | 191 Nm       | 30 kW    | SGBMH-3ZDCA61     | SGDH-3ZDE             |  |
|                                                                                    |                |                                                               |                               | 236 Nm       | 37 kW    | SGBMH-3GDCA61     | SGDH-3GDE             |  |
|                                                                                    |                |                                                               |                               | 286 Nm       | 45 kW    | SGBMH-4EDCA61     | SGDH-4EDE             |  |
|                                                                                    |                |                                                               | Without brake<br>Foot mount   | 236 Nm       | 37 kW    | SGBMH-3GDCAL1     | SGDH-3GDE             |  |
|                                                                                    |                |                                                               |                               | 286 Nm       | 45 kW    | SGBMH-4EDCAL1     | SGDH-4EDE             |  |
|                                                                                    |                |                                                               |                               | 350 Nm       | 55 kW    | SGBMH-5EDCAL1     | SGDH-5EDE             |  |
|                                                                                    |                |                                                               | With brake<br>Flange mount    | 140 Nm       | 22 kW    | SGBMH-2BDCA6C     | SGDH-2BDE             |  |
|                                                                                    |                |                                                               |                               | 191 Nm       | 30 kW    | SGBMH-3ZDCA6C     | SGDH-3ZDE             |  |
|                                                                                    |                |                                                               |                               | 236 Nm       | 37 kW    | SGBMH-3GDCA6C     | SGDH-3GDE             |  |
|                                                                                    |                |                                                               | With brake<br>Foot mount      | 286 Nm       | 45 kW    | SGBMH-4EDCA6C     | SGDH-4EDE             |  |
|                                                                                    |                |                                                               |                               | 236 Nm       | 37 kW    | SGBMH-3GD2AL1     | SGDH-3GDE             |  |
|                                                                                    |                |                                                               |                               | 286 Nm       | 45 kW    | SGBMH-4ED2AL1     | SGDH-4EDE             |  |
|                                                                                    |                |                                                               | Without brake<br>Foot mount   | 286 Nm       | 45 kW    | SGBMH-4ED2AL1     | SGDH-4EDE             |  |
|                                                                                    |                |                                                               |                               | 350 Nm       | 55 kW    | SGBMH-5ED2AL1     | SGDH-5EDE             |  |
|                                                                                    |                |                                                               | With brake<br>Flange mount    | 140 Nm       | 22 kW    | SGBMH-2BD2A6C     | SGDH-2BDE             |  |
|                                                                                    |                |                                                               |                               | 191 Nm       | 30 kW    | SGBMH-3ZD2A6C     | SGDH-3ZDE             |  |
|                                                                                    |                |                                                               |                               | 236 Nm       | 37 kW    | SGBMH-3GD2ALC     | SGDH-3GDE             |  |
|                                                                                    |                |                                                               | With brake<br>Foot mount      | 286 Nm       | 45 kW    | SGBMH-4ED2ALC     | SGDH-4EDE             |  |

## Encoder Cables

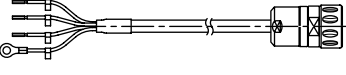
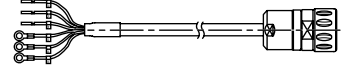
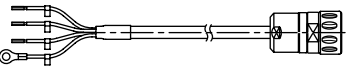
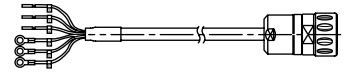
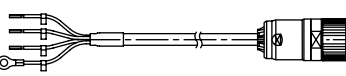
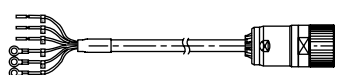
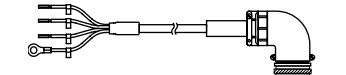
## for sigma-II servo drive

| Symbol | Specifications                                                                                | Model                 | Appearance                                                                            |
|--------|-----------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|
| ③      | Sigma-II encoder cable for SGMAH/PH Servo motors<br>SGMAH-□□□□□□□□D-OY<br>SGMPH-□□□□□□□□D-OY  | 3 m R88A-CRWA003C-DE  |  |
|        |                                                                                               | 5 m R88A-CRWA005C-DE  |                                                                                       |
|        |                                                                                               | 10 m R88A-CRWA010C-DE |                                                                                       |
|        |                                                                                               | 15 m R88A-CRWA015C-DE |                                                                                       |
|        |                                                                                               | 20 m R88A-CRWA020C-DE |                                                                                       |
|        | Sigma-II encoder cable for SGMGH/SH/UH Servo motors<br>SGMGH-□<br>SGMSH-□<br>SGMUH-□, SGBMH-□ | 3 m R88A-CRWB003N-E   |  |
|        |                                                                                               | 5 m R88A-CRWB005N-E   |                                                                                       |
|        |                                                                                               | 10 m R88A-CRWB010N-E  |                                                                                       |
|        |                                                                                               | 15 m R88A-CRWB015N-E  |                                                                                       |
|        |                                                                                               | 20 m R88A-CRWB020N-E  |                                                                                       |

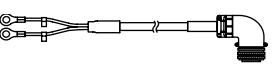
## for XtraDrive servo drive

| Symbol | Specifications                                                                                           | Model              | Appearance                                                                            |
|--------|----------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------|
| ③      | XtraDrive encoder cable for Sigma-II (SGMAH/PH) Servo motors<br>SGMAH-□□□□□□□□D-OY<br>SGMPH-□□□□□□□□D-OY | 3 m XD-CRWA003-DE  |  |
|        |                                                                                                          | 5 m XD-CRWA005-DE  |                                                                                       |
|        |                                                                                                          | 10 m XD-CRWA010-DE |                                                                                       |
|        |                                                                                                          | 15 m XD-CRWA015-DE |                                                                                       |
|        |                                                                                                          | 20 m XD-CRWA020-DE |                                                                                       |
|        | XtraDrive encoder cable for Sigma-II (SGMGH/SH/UH/BH) Servo motors<br>SGMGH-□<br>SGMSH-□<br>SGMUH-□      | 3 m XD-CRWB003N-E  |  |
|        |                                                                                                          | 5 m XD-CRWB005N-E  |                                                                                       |
|        |                                                                                                          | 10 m XD-CRWB010N-E |                                                                                       |
|        |                                                                                                          | 15 m XD-CRWB015N-E |                                                                                       |
|        |                                                                                                          | 20 m XD-CRWB020N-E |                                                                                       |

## Power cables

| Symbol | Specifications                                                                                                                                                       | Model                 | Appearance                                                                            |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|
| ④      | For 200 V servo motors without brake<br>SGMAH-□□A□□□1D-OY<br>SGMPH-(01/02/04/08)A□□41D-OY                                                                            | 3 m R88A-CAWA003S-DE  |    |
|        |                                                                                                                                                                      | 5 m R88A-CAWA005S-DE  |                                                                                       |
|        |                                                                                                                                                                      | 10 m R88A-CAWA010S-DE |                                                                                       |
|        |                                                                                                                                                                      | 15 m R88A-CAWA015S-DE |                                                                                       |
|        |                                                                                                                                                                      | 20 m R88A-CAWA020S-DE |                                                                                       |
|        | For 200 V servo motors with brake<br>SGMAH-□□A□□□CD-OY<br>SGMPH-(01/02/04/08)A□□4CD-OY                                                                               | 3 m R88A-CAWA003B-DE  |    |
|        |                                                                                                                                                                      | 5 m R88A-CAWA005B-DE  |                                                                                       |
|        |                                                                                                                                                                      | 10 m R88A-CAWA010B-DE |                                                                                       |
|        |                                                                                                                                                                      | 15 m R88A-CAWA015B-DE |                                                                                       |
|        |                                                                                                                                                                      | 20 m R88A-CAWA020B-DE |                                                                                       |
|        | For 200 V servo motors without brake<br>SGMPH-15A□□□1D-OY                                                                                                            | 3 m R88A-CAWB003S-DE  |    |
|        |                                                                                                                                                                      | 5 m R88A-CAWB005S-DE  |                                                                                       |
|        |                                                                                                                                                                      | 10 m R88A-CAWB010S-DE |                                                                                       |
|        |                                                                                                                                                                      | 15 m R88A-CAWB015S-DE |                                                                                       |
|        |                                                                                                                                                                      | 20 m R88A-CAWB020S-DE |                                                                                       |
|        | For 200 V servo motors with brake<br>SGMPH-15A□□□CD-OY                                                                                                               | 3 m R88A-CAWB003B-DE  |    |
|        |                                                                                                                                                                      | 5 m R88A-CAWB005B-DE  |                                                                                       |
|        |                                                                                                                                                                      | 10 m R88A-CAWB010B-DE |                                                                                       |
|        |                                                                                                                                                                      | 15 m R88A-CAWB015B-DE |                                                                                       |
|        |                                                                                                                                                                      | 20 m R88A-CAWB020B-DE |                                                                                       |
|        | For 400 V servo motors without brake<br>SGMAH-□□D□□□1D-OY<br>SGMPH-□□D□□□1D-OY                                                                                       | 3 m R88A-CAWK003S-DE  |    |
|        |                                                                                                                                                                      | 5 m R88A-CAWK005S-DE  |                                                                                       |
|        |                                                                                                                                                                      | 10 m R88A-CAWK010S-DE |                                                                                       |
|        |                                                                                                                                                                      | 15 m R88A-CAWK015S-DE |                                                                                       |
|        |                                                                                                                                                                      | 20 m R88A-CAWK020S-DE |                                                                                       |
|        | For 400 V servo motors with brake<br>SGMAH-□□D□□□CD-OY<br>SGMPH-□□D□□□CD-OY                                                                                          | 3 m R88A-CAWK003B-DE  |   |
|        |                                                                                                                                                                      | 5 m R88A-CAWK005B-DE  |                                                                                       |
|        |                                                                                                                                                                      | 10 m R88A-CAWK010B-DE |                                                                                       |
|        |                                                                                                                                                                      | 15 m R88A-CAWK015B-DE |                                                                                       |
|        |                                                                                                                                                                      | 20 m R88A-CAWK020B-DE |                                                                                       |
|        | For 400 V servo motors<br>SGMGH-(05/09/13)D□<br>SGMSH-(10/15/20)D□<br>SGMUH-(10/15)D□<br>For servomotors with brake, a separate cable<br>(R88A-CAWC0□□B-E) is needed | 3 m R88A-CAWC003S-E   |  |
|        |                                                                                                                                                                      | 5 m R88A-CAWC005S-E   |                                                                                       |
|        |                                                                                                                                                                      | 10 m R88A-CAWC010S-E  |                                                                                       |
|        |                                                                                                                                                                      | 15 m R88A-CAWC015S-E  |                                                                                       |
|        |                                                                                                                                                                      | 20 m R88A-CAWC020S-E  |                                                                                       |
|        | For 400 V servo motors<br>SGMGH-(20/30)D□<br>SGMSH-(30/40/50)D□<br>SGMUH-(30/40)D□<br>For servomotors with brake, a separate cable<br>(R88A-CAWC0□□B-E) is needed    | 3 m R88A-CAWD003S-E   |                                                                                       |
|        |                                                                                                                                                                      | 5 m R88A-CAWD005S-E   |                                                                                       |
|        |                                                                                                                                                                      | 10 m R88A-CAWD010S-E  |                                                                                       |
|        |                                                                                                                                                                      | 15 m R88A-CAWD015S-E  |                                                                                       |
|        |                                                                                                                                                                      | 20 m R88A-CAWD020S-E  |                                                                                       |
|        | For 400 V servo motors<br>SGMGH-44D□<br>For servomotors with brake, a separate cable<br>(R88A-CAWC0□□B-E) is needed                                                  | 3 m R88A-CAWG003S-E   |                                                                                       |
|        |                                                                                                                                                                      | 5 m R88A-CAWG005S-E   |                                                                                       |
|        |                                                                                                                                                                      | 10 m R88A-CAWG010S-E  |                                                                                       |
|        |                                                                                                                                                                      | 15 m R88A-CAWG015S-E  |                                                                                       |
|        |                                                                                                                                                                      | 20 m R88A-CAWG020S-E  |                                                                                       |
|        | For 400 V servo motors<br>SGMGH-55D□<br>For servomotors with brake, a separate cable<br>(R88A-CAWC0□□B-E) is needed                                                  | 3 m R88A-CAWF003S-E   |                                                                                       |
|        |                                                                                                                                                                      | 5 m R88A-CAWF005S-E   |                                                                                       |
|        |                                                                                                                                                                      | 10 m R88A-CAWF010S-E  |                                                                                       |
|        |                                                                                                                                                                      | 15 m R88A-CAWF015S-E  |                                                                                       |
|        |                                                                                                                                                                      | 20 m R88A-CAWF020S-E  |                                                                                       |
|        | For 400 V servo motors<br>SGMGH-(75/1A)D□<br>For servomotors with brake, a separate cable<br>(R88A-CAWC0□□B-E) is needed                                             | 3 m R88A-CAWH003S-E   |                                                                                       |
|        |                                                                                                                                                                      | 5 m R88A-CAWH005S-E   |                                                                                       |
|        |                                                                                                                                                                      | 10 m R88A-CAWH010S-E  |                                                                                       |
|        |                                                                                                                                                                      | 15 m R88A-CAWH015S-E  |                                                                                       |
|        |                                                                                                                                                                      | 20 m R88A-CAWH020S-E  |                                                                                       |
|        | For 400 V servo motors<br>SGMGH-1ED□<br>For servomotors with brake, a separate cable<br>(R88A-CAWC0□□B-E) is needed                                                  | 3 m R88A-CAWJ003S-E   |                                                                                       |
|        |                                                                                                                                                                      | 5 m R88A-CAWJ005S-E   |                                                                                       |
|        |                                                                                                                                                                      | 10 m R88A-CAWJ010S-E  |                                                                                       |
|        |                                                                                                                                                                      | 15 m R88A-CAWJ015S-E  |                                                                                       |
|        |                                                                                                                                                                      | 20 m R88A-CAWJ020S-E  |                                                                                       |

## Brake cable (for SGMGH/SH/UH Motors)

| Symbol | Specifications                                                                                   | Model                | Appearance                                                                            |
|--------|--------------------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------|
| ⑤      | Brake cable only.<br>For 400 V servo motors with brake<br>SGMGH-□□D□<br>SGMSH-□□D□<br>SGMUH-□□D□ | 3 m R88A-CAWC003B-E  |  |
|        |                                                                                                  | 5 m R88A-CAWC005B-E  |                                                                                       |
|        |                                                                                                  | 10 m R88A-CAWC010B-E |                                                                                       |
|        |                                                                                                  | 15 m R88A-CAWC015B-E |                                                                                       |
|        |                                                                                                  | 20 m R88A-CAWC020B-E |                                                                                       |
|        |                                                                                                  |                      |                                                                                       |

## Connectors

| Specification                                                                                                              | Model            |
|----------------------------------------------------------------------------------------------------------------------------|------------------|
| Hypertac power connector IP67 (for 200 V motors SGMAH/PH-□□A□□□□D-OY)                                                      | SPOC-06K-FSDN169 |
| Hypertac power connector IP67 (for 400 V motors SGMAH/PH-□□D□□□□D-OY)                                                      | LPRA-06B-FRBN170 |
| Hypertac encoder connector IP67 (for motors SGMAH/PH-□□□□□□□D-OY)                                                          | SPOC-17H-FRON169 |
| Military power connector IP67 (for 400 V motors SGMGH-(05/10/13)D□, SGMSH-(10/15/20)D□, SGMUH-(10/15)D□) (for SGMBH-□ fan) | MS3108E18-10S    |
| Military power connector IP67 (for 400 V motors SGMGH-(20/30/44)D□, SGMSH-(30/40/50)D□, SGMUH-(30/40)D□)                   | MS3108E22-22S    |
| Military power connector IP67 (for 400 V motors SGMGH-(55/75/1A/1E)D□)                                                     | MS3108E32-17S    |
| Military brake connector IP67 (for 400 V servo motors SGMGH-□, SGMSH-□, SGMUH-□)                                           | MS3108E10SL-3S   |
| Military encoder connector IP67 (for motors SGMGH-□, SGMSH-□, SGMUH-□, SGMBH-□)                                            | MS3108E20-29S    |
| Spare part, hypertac power connector male (connector included with the motor for 200 V models SGMAH/PH-□□A□□□□D-OY)        | SRUC-06J-MSCN236 |
| Spare part, hypertac power connector male (connector included with the motor for 400 V motors SGMAH/PH-□□D□□□□D-OY)        | LRRA-06A-MRPN182 |
| Spare part, hypertac encoder connector male (connector included with the motor for motors SGMAH/PH-□□□□□□□D-OY)            | SRUC-17G-MRWN087 |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.  
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

# Artisan Technology Group is an independent supplier of quality pre-owned equipment

## Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

## We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

## Learn more!

Visit us at [artisanng.com](https://www.artisanng.com) for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

**We're here to make your life easier. How can we help you today?**

(217) 352-9330 | [sales@artisanng.com](mailto:sales@artisanng.com) | [artisanng.com](https://www.artisanng.com)

